

4.6 GREENHOUSE GAS EMISSIONS

This section of the EIR analyzes the potential environmental effects on climate change from implementation of the proposed Granada Hills–Knollwood Community Plan and implementing ordinances and the Sylmar Community Plan and implementing ordinances (proposed plans). No comment letters addressing climate change were received in response to the Notice of Preparation (NOP) circulated for the proposed plans.

This section of the EIR explains how emissions of greenhouse gases (GHGs) from the plans' build-out can (i) contribute to elevated levels of GHGs which naturally exist in Earth's atmosphere and, consequently, (ii) cause climate change with its adverse impacts on the environment such as higher temperatures, raised sea levels, and damage to flora and fauna. The plans build-out will produce GHG emissions likely to exceed the current baseline of 460,930 metric tons of carbon dioxide equivalent (MT CO₂e) and 759,621 MT CO₂e in the Granada Hills–Knollwood and Sylmar CPAs respectively, and will produce such emissions through the construction and operation of the new residential, commercial and industrial uses described in the proposed plans. The mitigation measures identified in this section, even when coupled with the existing regulatory system for GHGs, will not reduce the impact of these emissions to a less-than-significant level.

Data for this section were obtained from the South Coast Air Quality Management District (SCAQMD) CEQA Air Quality Handbook, City of Los Angeles General Plan, Granada Hills–Knollwood Community Plan Policies, Sylmar Community Plan Policies, Chapter 3 (Project Description) of this EIR, and traffic data provided by Iteris. Full reference-list entries for all cited materials are provided in Section 4.6.4 (References).

4.6.1 Environmental Setting

The Granada Hills–Knollwood Community Plan Area (CPA) contains approximately 9,057 acres while the Sylmar CPA contains approximately 6,824 acres in the northeastern portion of the City of Los Angeles. The City of Los Angeles is located within the South Coast Air Basin (Basin), named so because its geographical formation is that of a basin, with the surrounding mountains trapping the air and its pollutants in the valleys or basins below. This 6,600-square-mile area includes all of Orange County and the non-desert portions of Los Angeles, San Bernardino, and Riverside Counties. The regional climate within the Basin is considered semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime on-shore breezes, and moderate humidity. The climate within the Basin is influenced by a wide range of emission sources, such as utility use, heavy vehicular traffic, industry, and meteorology.

■ Climate Change Background

Parts of the Earth's atmosphere act as an insulating blanket of just the right thickness, trapping sufficient solar energy to keep the global average temperature in a suitable range. The "blanket" is a collection of atmospheric gases called "greenhouse gases" (GHGs) based on the idea that these gases trap heat like the glass walls of a greenhouse. These gases, mainly water vapor, carbon dioxide (CO₂), methane (CH₄),

nitrous oxide (N_2O), ozone (O_3), and chlorofluorocarbons (CFCs), all act as effective global insulators, reflecting visible light and infrared radiation back to earth. Human activities, such as producing electricity and driving internal combustion vehicles, have contributed to the elevated concentration of these gases in the atmosphere. This in turn is causing the earth's temperature to rise. A warmer earth may lead to changes in rainfall patterns, smaller polar ice caps, a rise in sea level, and a wide range of impacts on plants, wildlife, and humans.

The relationships of water vapor and ozone as GHGs are poorly understood. It is unclear how much water vapor acts as a GHG. The uncertainty is due to the fact that water vapor can also produce cloud cover, which reflects sunlight away from Earth and can counteract its effect as a GHG. Also, water vapor tends to increase as the Earth warms, so it is not well understood whether the increase in water vapor is contributing to or rather a result of climate change. Ozone tends to break down in the presence of solar radiation but is not understood well enough for evaluation. For these reasons, methodologies approved by the Intergovernmental Panel on Climate Change (IPCC), U.S. Environmental Protection Agency (USEPA), and the California Air Resources Board (California ARB) focus on CO_2 , N_2O , CH_4 , and CFCs. The following provides a brief description of each of these GHGs.

Carbon Dioxide

The natural production and absorption of carbon dioxide CO_2 occur through the burning of fossil fuels (e.g., oil, natural gas, and coal), solid waste, trees, and wood products, and as a result of other chemical reactions, such as those required to manufacture cement. Globally, the largest source of CO_2 emissions is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, and industrial facilities. A number of specialized industrial production processes and product uses, such as mineral or metal production, and the use of petroleum-based products, leads to CO_2 emissions.

CO_2 is removed from the atmosphere (or sequestered) when it is absorbed by plants as part of the biological carbon cycle. Natural sources of CO_2 occur within the carbon cycle where billions of tons of atmospheric CO_2 are removed by oceans and growing plants and are emitted back into the atmosphere through natural processes. When in balance, total CO_2 emissions and removals from the entire carbon cycle are roughly equal. Since the Industrial Revolution in the 1700s human activities, including burning of oil, coal, and gas and deforestation, increased CO_2 concentrations in the atmosphere by 35 percent as of 2005.

Methane

Methane (CH_4) is emitted from a variety of both human-related and natural sources. CH_4 is emitted during the production and transport of coal, natural gas, and oil, from livestock and other agricultural practices, and from the decay of organic waste in municipal solid waste landfills. It is estimated that 60 percent of global CH_4 emissions are related to human activities. Natural sources of CH_4 include wetlands, gas hydrates,⁵⁰ permafrost, termites, oceans, freshwater bodies, non-wetland soils, and wildfires. CH_4 emission levels from a particular source can vary significantly from one country or region to

⁵⁰ Gas hydrates are crystalline solids that consist of a gas molecule, usually methane, surrounded by a "cage" of water molecules. (U.S. Geological Survey. Gas [Methane] Hydrates—A New Frontier [1992], <http://marine.usgs.gov/factsheets/gas-hydrates/title.html> [accessed September 1992]).

another. These variances depend on many factors, such as climate, industrial and agricultural production characteristics, energy types and usage, and waste management practices. For example, temperature and moisture have a significant effect on the anaerobic digestion process, which is one of the key biological processes resulting in CH₄ emissions from both human and natural sources. Also, the implementation of technologies to capture and utilize CH₄ from sources such as landfills, coalmines, and manure management systems affects the emission levels from these sources.

Nitrous Oxide

Concentrations of nitrous oxide N₂O also began to rise at the beginning of the Industrial Revolution reaching 314 parts per billion (ppb) by 1998. Microbial processes in soil and water, including those reactions that occur in fertilizer containing nitrogen, produce nitrous oxide. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to the atmospheric load of N₂O.

Chlorofluorocarbons

Chlorofluorocarbons (CFCs) have no natural source, but were synthesized for uses as refrigerants, aerosol propellants, and cleaning solvents. Since their creation in 1928, the concentrations of CFCs in the atmosphere have been rising. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken, and levels of the major CFCs are now remaining static or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years. Since they are also a GHG, along with such other long-lived synthesized gases as CF₄ (carbontetrafluoride) and SF₆ (sulfurhexafluoride), they are of concern. Another set of synthesized compounds called HFCs (hydrofluorocarbons) are also considered GHGs, though they are less stable in the atmosphere and therefore have a shorter lifetime and less of an impact. CFCs, CF₄, SF₆, and HFCs have been banned and are no longer available. Therefore, these GHGs are not included further in this analysis.

■ Potential Effects of Global Climate Change

Climate change could have a number of adverse effects. Although these effects would have global consequences, in most cases they would not disproportionately affect any one site or activity. In other words, many of the effects of climate change are not site specific. Emission of greenhouse gases would contribute to the changes in the global climate, which would in turn, have a number of physical and environmental effects. A number of general effects are discussed below.

Sea Level Rise and Flooding

The California Climate Change Center predicts that sea level in California would rise between 0.36 to 2.3 feet (10.9 to 71.6 centimeters [cm]) above existing mean sea level (MSL) by 2099 as a result of climate

change.⁵¹ Measurements taken in the City of Alameda indicate that the current rate of sea level rise is about 0.29 foot per century. Therefore, projected climate change effects on sea level would increase the existing rate of sea level rise by 0.07 to 1.94 feet per century.⁵² When combined with astronomical tides, even a 1-foot increase in MSL would result in the 100-year event high tide peak occurring at the 10-year event frequency.⁵³ In other words, the frequency of a current 100-year high tide (about 9.5 feet above current MSL) would occur 10 times more often if sea levels increase by 1 foot above current MSL. Even if sea level rise continues at existing rates, neither the Granada Hills–Knollwood nor Sylmar CPAs will be directly impacted.

In the future, precipitation events are predicted to vary in terms of timing, intensity, and volume according to many climate change models. Extreme storm events may occur with greater frequency. Changes in rainfall and runoff could affect flows in surface water bodies, causing increased flooding and runoff to the storm drain system.

Water Supply

California Health and Safety Code Section 38501(a) recognizes that climate change “poses a serious threat to the economic well-being, public health, natural resources, and the environment of California,” and notes, “the potential adverse impacts of [climate change] include ... reduction in the quality and supply of water to the state from the Sierra snowpack.” As most of the state, including the City of Los Angeles, depends on surface water supplies originating in the Sierra Nevada, this water supply reduction is a concern.

Most of the scientific models addressing climate change show that the primary effect on California’s climate would be a reduced snow pack and a shift in stream-flow seasonality. A higher percentage of the winter precipitation in the mountains would likely fall as rain rather than as snow in some locations, reducing the overall snowpack. Further, as temperatures rise, snowmelt is expected to occur earlier in the year. As a result, peak runoff would likely come a month or so earlier. The end result of this would be that the state may not have sufficient surface storage to capture the early runoff, and so, absent construction of additional water storage projects, a portion of the current supplies would flow to the oceans and be unavailable for use in the state’s water delivery systems.

⁵¹ California Climate Change Center, *Projecting Future Sea Level*, a Report from the California Climate Change Center, CEC-500-2005-202-SF, prepared by D. Cayan, P. Bromirski, K. Hayhoe, M. Tyree, M. Dettinger, and R. Flick (March 2006), Table 3 (Projected global sea level rise [SLR] [cm] for the SRES A1fi, A2, and B1 greenhouse gas emission scenarios. SLR for A2 and B1 scenarios is estimated by combining output recent global climate change model simulations with MAGICC projections for the ice melt component. SLR estimates for A1fi estimated from MAGICC based on A2 temperature changes scaled according to those in A1fi), p. 19.

⁵² California Climate Change Center, *Climate Warming and Water Supply Management in California: White Paper*, a Report from Climate Change Center, CEC-500-2005-195-SF, prepared by J. Medelin, J. Harou, M. Olivares, J. Lund, R. Howitt, S. Tanaka, M. Jenkins, K. Madani, and T. Zhu (March 2006), Chapter 2 (Potential Impacts of Climate Change on California’s Water Resources), Table 2-6 (Relative Sea Level Trends for Eight Tide Gauges Along the Coast of California with 50 Years or More of Record).

⁵³ California Climate Change Center, *Climate Warming and Water Supply Management in California: White Paper*, a Report from Climate Change Center, CEC-500-2005-195-SF, prepared by J. Medelin, J. Harou, M. Olivares, J. Lund, R. Howitt, S. Tanaka, M. Jenkins, K. Madani, and T. Zhu (March 2006), Chapter 2 (Potential Impacts of Climate Change on California’s Water Resources), Table 2-6 (Relative Sea Level Trends for Eight Tide Gauges Along the Coast of California with 50 Years or More of Record).

Water Quality

Climate change could have adverse effects on water quality, which would in turn affect the beneficial uses (habitat, water supply, etc.) of surface water bodies and groundwater. The changes in precipitation discussed above could result in increased sedimentation, higher concentration of pollutants, higher dissolved oxygen levels, increased temperatures, and an increase in the amount of runoff constituents reaching surface water bodies. Sea level rise, discussed above, could result in the encroachment of saline water into freshwater bodies.

Ecosystems and Biodiversity

Climate change is expected to have effects on diverse types of ecosystems, from alpine to deep-sea habitat. As temperatures and precipitation change, seasonal shifts in vegetation will occur, which could affect the distribution of associated flora and fauna species. As the range of species shifts, habitat fragmentation could occur, with acute impacts on the distribution of certain sensitive species. The IPCC states that “20 percent to 30 percent of species assessed may be at risk of extinction from climate change impacts within this century if global mean temperatures exceed 2 to 3°C (3.6 to 5.4°F) relative to pre-industrial levels.”⁵⁴ Shifts in existing biomes⁵⁵ could also make ecosystems vulnerable to invasive species encroachment. Wildfires, which are an important control mechanism in many ecosystems, may become more severe and more frequent, making it difficult for native plant species to repeatedly re-germinate. In general terms, climate change is expected to put a number of stressors on ecosystems, with potentially catastrophic effects on biodiversity.

Human Health Impacts

Climate change may increase the risk of vector-borne infectious diseases, particularly those found in tropical areas and spread by insects—malaria, dengue fever, yellow fever, and encephalitis.⁵⁶ While these health impacts would largely affect tropical areas in other parts of the world, effects would also be felt in California. Warming of the atmosphere would be expected to increase smog and particulate pollution, which could adversely affect individuals with heart and respiratory problems, such as asthma. Extreme heat events would also be expected to occur with more frequency, and could adversely affect the elderly, children, and the homeless. Finally, the water supply impacts and seasonal temperature variations expected as a result of climate change could affect the viability of existing agricultural operations, making the food supply more vulnerable.

■ Potential Effects of Human Activity on Climate Change

The burning of fossil fuels, such as coal and oil, especially for the generation of electricity and powering of motor vehicles, has led to substantial increases in CO₂ emissions (and thus substantial increases in

⁵⁴ Intergovernmental Panel on Climate Change, *Climate Change 2007: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Third Assessment Report of the Intergovernmental Panel on Climate Change*. Parry, Martin L., Canziani, Osvaldo F., Palutikof, Jean P., van der Linden, Paul J., and Hanson, Clair E. (eds.) (Cambridge, United Kingdom: Cambridge University Press, 2007).

⁵⁵ A biome is a major ecological community classified by the predominant vegetation and hence animal inhabitants.

⁵⁶ U.S. Environmental Protection Agency, *Climate Change—Health and Environmental Effects* (2008), <http://www.epa.gov/climatechange/effects/health.html#climate> (accessed December 13, 2009).

atmospheric concentrations). In 1994, atmospheric CO₂ concentrations were found to have increased by nearly 30 percent above pre-industrial (c. 1860) concentrations.

The effect each GHG has on climate change is measured as a combination of the volume of its emissions, and its global warming potential (GWP), and is expressed as a function of how much warming would be caused by the same mass of CO₂. Thus, GHG emissions are typically measured in terms of pounds or tons of CO₂e, and are often expressed in metric tons (MT CO₂e) or millions of metric tons of CO₂ equivalents (MMT CO₂e).

- **Global Emissions.** Worldwide emissions of GHGs in 2004 were nearly 30 billion tons of CO₂e per year (including both ongoing emissions from industrial and agricultural sources, but excluding emissions from land-use changes).⁵⁷
- **U.S. Emissions.** In 2004, the United States emitted 7 billion tons of CO₂e. Of the four major sectors nationwide—residential, commercial, industrial, and transportation—transportation accounts for the highest percentage of GHG emissions (approximately 35 to 40 percent); these emissions are entirely generated from direct fossil fuel combustion. In 2008, the United States emitted 6.9 billion tons of CO₂e, with transportation accounting for the highest percentage of GHG emissions, approximately 32 percent.⁵⁸
- **State of California Emissions.** In 2004, California emitted approximately 483 million tons of CO₂e, or about 6 percent of the U.S. emissions. This large number is due primarily to the sheer size of California compared to other states. By contrast, California has the fourth lowest per-capita GHG emission rates in the country, due to the success of its energy-efficiency and renewable energy programs and commitments that have lowered the state’s GHG emissions rate of growth by more than half of what it would have been otherwise. Another factor that has reduced California’s fuel use and GHG emissions is its mild climate compared to that of many other states. In 2008, California’s GHG emissions were approximately 478 million metric tons CO₂e, generally attributed to the reduced travel and therefore transportation emissions.⁵⁹ The California Energy Commission found that transportation is the source of approximately 41 percent of the state’s GHG emissions, followed by electricity generation (both in-state and out-of-state) at 23 percent, and industrial sources at 20 percent. Agriculture and forestry is the source of approximately 8.3 percent, as is the source categorized as “other,” which includes residential and commercial activities.⁶⁰
- **Granada Hills–Knollwood Emissions.** GHG emissions inventory for the existing Granada Hills–Knollwood community estimates the energy used and waste produced within the CPA. Total existing emissions equal approximately 460,930 metric tons CO₂e
- **Sylmar Emissions.** GHG emissions inventory for the existing Sylmar community estimates the energy used and waste produced within the CPA. Total existing emissions equal approximately 759,621 metric tons CO₂e. Various aspects of constructing, operating, and the eventual demolition

⁵⁷ United Nations Framework Convention on Climate Change, Sum of Annex I and Non-Annex I Countries without Counting Land-Use, Land-Use Change and Forestry (LULUCF), Predefined Queries: GHG total without LULUCF (Annex I Parties) (Bonn, Germany, 2007), http://unfccc.int/ghg_emissions_data/predefined_queries/items/3814.php (accessed May 2, 2007).

⁵⁸ U.S. Environmental Protection Agency, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2004 (2006).

⁵⁹ U.S. Environmental Protection Agency, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2008. EPA# 430-R-10-006 (April 2010).

⁶⁰ California Energy Commission, Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004—Final Staff Report, publication # CEC-600-2006-013-SF, Sacramento, CA (December 22, 2006; updated January 23, 2007).

of industrial, commercial and residential uses will result in GHG emissions. Operational GHG emissions result from energy use associated with heating, lighting, and powering buildings (typically through natural gas and electricity consumption), pumping and processing water (which consumes electricity), as well as fuel used for transportation and decomposition of waste associated with building occupants. New development can also create GHG emissions in its construction and demolition phases in connection with the use of fuels in construction equipment, creation and decomposition of building materials, vegetation clearing, and other activities. However, it is noted that new development does not necessarily create entirely new GHG emissions. Occupants of new buildings are often relocating and shifting their operational-phase emissions from other locations.

4.6.2 Regulatory Framework

Global climate change is addressed through the efforts of various federal, state, regional, and local government agencies as well as national and international scientific and governmental conventions and programs. These agencies work jointly and individually to understand and regulate the effects of greenhouse gas emissions and resulting climate change through legislation, regulations, planning, policy-making, education, and a variety of programs. The significant agencies, conventions, and programs focused on global climate change are discussed below.

■ International and Federal

International Protocols

The United States participated in the United Nations Framework Convention on Climate Change (UNFCCC) (signed on March 21, 1994). The Kyoto Protocol was the first treaty made under the UNFCCC and was the first international agreement to regulate GHG emissions. It has been estimated that if the commitments outlined in the Kyoto Protocol were met, global GHG emissions could have been reduced by an estimated 5 percent from 1990 levels during the first commitment period of 2008–2012. The United States has not ratified the Protocol and is not bound by the Protocol's commitments.

Representatives from 170 countries met in Copenhagen in December 2009 to ratify an updated UNFCCC agreement (Copenhagen Accord). The Copenhagen Accord, a voluntary agreement between the United States, China, India, and Brazil, recognizes the need to keep global temperature rise to below 2°C and obligates signatories to establish measures to reduce greenhouse gas emissions and to prepare to provide help to poorer countries in adapting to Climate Change. The Copenhagen Accord is a non-binding agreement.

Representatives from 194 United Nations member states, including business leaders and non-government organizations, met in Cancun, Mexico in December 2010 to participate in the United Nations Climate Change Conference (COP-16). In all, approximately 25,000 participants met to work out the language and reduction targets of a new agreement. The result was the Cancun Agreements, a voluntary agreement similar to the Copenhagen Accord, but with broader UN member nation support. The Cancun Agreements set the stage for the climate conference in Durban, South Africa, where the unresolved issues—including the future of the Kyoto Protocol and a binding agreement—will once again be on the table. The key elements of the Cancun Agreements are as follows:

- Countries agree to keep temperature rise below 2°C above pre-industrial levels and developed countries are urged to make more aggressive emission cut pledges.
- A \$30 billion package (“fast-start financing”) for 2012 to aid nations taking immediate action to adapt to global warming.
- The creation of a “Global Climate Fund” that will provide financing of \$100 million annually for longer-term adaptation and mitigation measures in developing countries (although where this aid will come from is still unresolved). The World Bank was designated as its interim trustee.
- The creation of the forestry program, Reducing Emissions from Deforestation and Forest Degradation (REDD+), which provides compensation for the preservation of tropical forests in developing countries.
- Specific language and a formal system for monitoring and reporting emissions. This includes a process of “international consultations and analysis” for developing countries that is “non-intrusive, non-punitive, and respectful of national sovereignty”, incorporating analysis by technical experts and resulting in a summary report.

The UNFCCC met again in December 2011 in South Africa to continue deliberating on a treaty to replace the Kyoto Protocol, which ends in 2012.

U.S. Environmental Protection Agency (USEPA)

The USEPA is responsible for implementing federal policy to address global climate change. The federal government administers a wide array of public-private partnerships to reduce GHG intensity generated by the United States. These programs focus on energy efficiency, renewable energy, methane and other non-CO₂ gases, agricultural practices, and implementation of technologies to achieve GHG reductions.

The USEPA issued a Final Rule for mandatory reporting of GHG emissions in October of 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufactures of heavy-duty and off-road vehicles and vehicle engines, and requires annual reporting of emissions, with the first annual reports due in March 2011.

On May 13, 2010, the USEPA issued a Final Rule that took effect on January 2, 2011, setting a threshold of 75,000 MT CO₂e per year for GHG emissions. New and existing industrial facilities that meet or exceed that threshold will require a permit after that date.

On November 10, 2010, the USEPA published the “PSD and Title V Permitting Guidance for Greenhouse Gases.” USEPA’s new guidance document is directed at state agencies responsible for air pollution permits under the Federal Clean Air Act to help them understand how to implement new greenhouse gas reduction requirements while mitigating costs for industry. Most states will use USEPA’s new guidelines when processing new air pollution permits for power plants, oil refineries, cement manufacturing, and other big pollution point sources.

On January 2, 2011, USEPA implemented the first phase of the Tailoring Rule for GHG emissions Title V Permitting. Under the first phase of the Tailoring Rule, all new sources of emissions are subject to GHG Title V permitting if they are otherwise subject to Title V for another air pollutant and they emit at least 75,000 MT CO₂e per year. Under Phase 1, no sources are required to obtain a Title V permits solely due to GHG emissions. Phase 2 of the Tailoring Rule went into effect July 1, 2011. At that time

new sources are subject to GHG Title V permitting if the source emits 100,000 MT CO₂e per year, or they are otherwise subject to Title V permitting for another pollutant and emit at least 75,000 MT CO₂e per year.

■ State

California Air Resources Board (California ARB)

The California ARB, a part of the California EPA (Cal/EPA), is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, California ARB conducts research, sets state ambient air quality standards (California Ambient Air Quality Standards), compiles emission inventories, develops suggested control measures, and provides oversight of local programs. California ARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. California ARB has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts.

Executive Order S-3-05

California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following GHG emission reduction targets:

- By 2010, California shall reduce GHG emissions to 2000 levels
- By 2020, California shall reduce GHG emissions to 1990 levels
- By 2050, California shall reduce GHG emissions to 80 percent below 1990 levels

Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006

In 2006, the California State Legislature adopted AB 32, the California Global Warming Solutions Act of 2006. AB 32 focuses on reducing GHGs in California. California ARB has determined the statewide levels of GHG emissions in 1990 to be 427 MMT CO₂e. California ARB has adopted the Climate Change Scoping Plan, which outlines the state's strategy to achieve the 2020 GHG limit set by AB 32. This Scoping Plan proposes a comprehensive set of actions designed to reduce overall greenhouse gas emissions in California, improve the environment, reduce dependence on oil, diversify energy sources, save energy, create new jobs, and enhance public health.

Part of California's strategy for achieving GHG reductions under AB 32 are the early action greenhouse gas reduction measures, which include the following: a low carbon fuel standard; reduction of emissions from non-professional servicing of motor vehicle air conditioning systems; and improved landfill methane capture.⁶¹

In December 2008, California ARB adopted the Climate Change Scoping Plan, which outlined the state's strategy to achieve the 2020 GHG limit. The 2008 plan projected 2020 emissions to be 596 MMTCO₂e if no emission reductions occur, as compared to the 2020 target (1990 emissions level) of 427 MMTCO₂e.

⁶¹ California Air Resources Board, Proposed Early Actions to Mitigate Climate Change in California (December 20, 2007), http://www.arb.ca.gov/cc/factsheets/support_ccoverview.pdf.

In order to reach the 2020 target goal, emissions must be reduced by 169 MMTCO₂e (approximately 29 percent reduction) under a business-as-usual (BAU) scenario. This is a reduction of 42 MMTCO₂e (almost 10 percent) from 2002-2004 average emissions, but additional reductions will be required to account for population and economic growth through 2020.⁶²

California ARB adopted an update to the Climate Change Scoping Plan in 2011. The 2011 plan incorporates changes that have occurred since the original 2008 plan was adopted. While the structure and framework remain the same, the 2011 Climate Change Scoping Plan provides an updated BAU (2006-2008) benchmark, and revised reduction requirements that take into account the current economic status of California. The 2011 plan projects 2020 emissions to be 507 MMTCO₂e if no emission reductions occur, as compared to the 2020 target (1990 emissions level) of 427 MMTCO₂e. In order to reach the 2020 target goal, emissions must be reduced by 80 MMTCO₂e (16 percent) under the 2008 BAU scenario. This would be achieved by requiring improved emissions standards for light-duty vehicles, a low-carbon fuel standard, energy efficiency in buildings and appliances and development of combined heat and power systems, and a renewable portfolio standard (RPS) for electricity production.⁶³

Senate Bill 375

SB 375 provides for a new planning process to coordinate land use planning and regional transportation plans and funding priorities, in order to help California meet the GHG reduction goals established in AB 32. SB 375 requires regional transportation plans, developed by Metropolitan Planning Organizations (MPOs), including the Sacramento Area Council of Governments, to incorporate a "sustainable communities strategy" in their regional transportation plans that will achieve GHG emission reduction targets set by California ARB. SB 375 also includes provisions for streamlined CEQA review for some infill projects such as transit oriented development. SB 375 will be implemented over the next several years.

Senate Bill (SB) 97

SB 97, enacted in 2007, amends the CEQA statute to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. In March 2010, the California Office of Administrative Law codified into law CEQA amendments that provide regulatory guidance with respect to the analysis and mitigation of the potential effects of GHG emissions, as found in CEQA Guidelines Section 15183.5. To streamline analysis, CEQA provides for analysis through compliance with a previously adopted plan or mitigation program under special circumstances.

One of the goals of the SB 97 is to allow programmatic level review and mitigation of GHG emissions that allows for the streamlining of CEQA review for subsequent development projects.

Executive Order S-13-08

Executive Order S-13-08, the Climate Adaptation and Sea Level Rise Planning Directive, provides clear direction for how the state should plan for future climate impacts. The first result is the 2009 California Adaptation Strategy (CAS) report which summarizes the best-known science on climate change impacts

⁶² California Air Resources Board, *Climate Change Scoping Plan: A Framework for Change* (December 2008).

⁶³ California Air Resources Board, *Supplement to the AB32 Scoping Plan Functional Equivalent Document* (2011), Chapter 2.

in the state to assess vulnerability and outlines possible solutions that can be implemented within and across state agencies to promote resiliency.

California Code of Regulations (CCR) Title 24

CCR Title 24, Part 6 (California's Energy Efficiency Standards for Residential and Nonresidential Buildings) (Title 24) were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to increase the baseline energy efficiency requirements. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions. The 2008 standards are the most recent version which went into effect in January 1, 2010.

CCR Title 24, Part 11 (California's Green Building Standard Code) (CALGreen) was adopted in 2010 and went into effect January 1, 2011. CALGreen is the first statewide mandatory green building code and significantly raises the minimum environmental standards for construction of new buildings in California. The Mandatory provisions in CALGreen will reduce the use of VOC emitting materials, strengthen water conservation, and require construction waste recycling.

■ Regional/Local

South Coast Air Quality Management District

The South Coast Air Quality Management District (SCAQMD) is the agency principally responsible for comprehensive air pollution control in the Los Angeles County area. In order to provide GHG emission guidance to the local jurisdictions within the South Coast Air Basin, the SCAQMD has organized a Working Group to develop GHG emission analysis guidance and thresholds.

SCAQMD released a draft guidance document regarding interim CEQA GHG significance thresholds in October 2008. On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold for projects where the SCAQMD is lead agency. SCAQMD proposed a tiered approach, whereby the level of detail and refinement needed to determine significance increases with a project's total GHG emissions. The tiered approach defines projects that are exempt under CEQA and projects that are within the jurisdiction of and subject to the policies of a GHG Reduction Plan as less than significant.

Air Quality Management Plan

The SCAQMD and the Southern California Association of Governments (SCAG) are the agencies responsible for preparing the Air Quality Management Plan (AQMP) for the Basin. Since 1979, a number of AQMPs have been prepared. The 1997 AQMP, updated in 1999 and replaced in 2003, was based on the 1994 AQMP, and ultimately the 1991 AQMP, and was designed to comply with state and federal requirements, reduce the high level of pollutant emissions in the Basin, and ensure clean air for the region through various control measures. To accomplish its task, the 1991 AQMP relied on a multilevel partnership of governmental agencies at the federal, state, regional, and local level. These agencies (i.e.,

the USEPA, the ARB, local governments, SCAG, and SCAQMD) are the cornerstones that implement the AQMP programs.

The 2003 AQMP, adopted in August 2003, updated the attainment demonstration for the federal standards for O₃ and PM₁₀; replaced the 1997 attainment demonstration for the federal CO standard and provided a basis for a maintenance plan for CO for the future; and updated the maintenance plan for the federal NO₂ standard that the Basin has met since 1992.

The most recent comprehensive plan is the 2007 AQMP adopted on July 13, 2007. The 2007 AQMP is designed to meet the state and Federal Clean Air Act planning requirements and focuses on O₃ and PM_{2.5}. The 2007 AQMP incorporates significant new emissions inventories, ambient measurements, scientific data, control strategies, and air quality modeling.

The SCAQMD is in the process of developing the 2012 Air Quality Management Plan, which will incorporate the most recent scientific and technological information and planning assumptions for the region. This includes the 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy and the updated emissions inventory methodologies for the various sources. The plan is currently being developed to implement a zero or near-zero emissions measures so the Basin can achieve attainment of the particulate matter and ozone standards.⁶⁴

City of Los Angeles—Green LA and Climate LA

The City of Los Angeles published a climate action plan in 2007 titled “GreenLA.” In order to provide detailed information on action items discussed in GreenLA, the City published an implementation document titled “ClimateLA.” ClimateLA presents the existing GHG inventory for the City, includes enforceable GHG reduction requirements, provides mechanisms to monitor and evaluate progress, and includes mechanisms that allow the plan to be revised in order to meet targets. By 2030, the plan aims to reduce GHG emissions by 35 percent from 1990 levels, which were estimated to be approximately 54.1 million metric tons.

Therefore, the City will need to lower annual GHG emissions to approximately 35.1 million metric tons per year by 2030. To achieve these reductions, the City has developed strategies that focus on energy, water use, transportation, land use, waste, open space and greening, and economic factors. The proposed plans consistency with these strategies is discussed in more detail below.

To reduce emissions from energy usage, ClimateLA proposes the following goals: increase the amount of renewable energy provided by the Los Angeles Department of Water and Power (LADWP); present a comprehensive set of green building policies to guide and support private sector development; reduce energy consumed by City facilities and utilize solar heating where applicable; and help citizen to use less energy. With regard to waste, ClimateLA sets the goal of reducing or recycling 70 percent of trash by 2015. With regard to open space and greening, ClimateLA includes the following goals: create 35 new parks; revitalize the Los Angeles River to create open space opportunities; plant one million trees throughout the City; identify opportunities to “daylight” streams; identify promising locations for

⁶⁴ South Coast Air Quality Management District, *2012 Air Quality Management Plan*, <http://www.aqmd.gov/aqmp/2012aqmp/index.htm> (accessed June 5, 2012).

stormwater infiltration to recharge groundwater aquifers; and collaborate with schools to create more parks in neighborhoods.

City of Los Angeles General Plan

The General Plan includes a Framework Element, citywide Elements, and Community Plans, and gives policy direction to the planning regulatory and implementation programs. Table 4.6-1 (General Plan Policies Relevant to Greenhouse Gas Emissions) lists goals and policies in the Los Angeles General Plan elements that pertain to greenhouse gas emissions.

| Table 4.6-1 General Plan Policies Relevant to Greenhouse Gas Emissions | |
|---|--|
| No. | Goal |
| AIR QUALITY ELEMENT | |
| Goal 2 | Less reliance on single occupant vehicles with fewer commute and non-work trips. |
| Goal 3 | Efficient management of transportation facilities and system infrastructure using cost effective system management and innovative demand-management techniques. |
| Goal 4 | Minimal impact of existing land use patterns and future land use development on air quality by addressing the relationship between land use, transportation, and air quality. |
| Goal 5 | Energy efficiency through land use and transportation planning, the use of renewable resources and less polluting fuels, and the implementation of conservation measures including passive methods such as site orientation and tree planting. |
| CONSERVATION ELEMENT | |
| Endangered Species, Policy 1 | Continue striving to meet the city's water, power and other needs while at the same time striving to be a good steward of natural resources and minimizing impacts on the environment. |
| Resource Management (Mineral Resources), Policy 2 | Continue to encourage the reuse of sand and gravel products such as concrete, and of alternative materials use in order to reduce the demand for extraction of natural sand and gravel. |
| Resource Management (Fossil Fuels), Policy 1 | Continue to encourage energy conservation and petroleum product reuse. |
| HOUSING ELEMENT | |
| Policy 1.1.4 | Expand location options for residential development, particularly in designated Centers, Transit Oriented Districts, and along Mixed-Use Boulevards. |
| Policy 2.1.2 | Establish Standards that Enhance Health Outcomes. |
| Policy 2.2.1 | Provide incentives to encourage the integration of housing with other compatible land uses. |
| Policy 2.2.2 | Develop design standards that promote sustainable development in public and private open space and street rights-of-way. |
| Policy 2.2.5 | Educate the public to understand and support the benefits of mixed-use and mixed-income communities to accommodate projected growth. |
| Policy 2.2.6 | To accommodate projected growth to 2014 in sustainable way, encourage housing in centers and near transit, in accordance with the General Plan framework Element, as reflected in Map E.S.1. |
| Policy 2.3.1 | Streamline entitlement, environmental, and permitting processes for sustainable buildings. |
| Policy 2.3.2 | Promote and facilitate reduction of water consumption in new and existing housing. |
| Policy 2.3.3 | Promote and facilitate reduction of energy consumption in new and existing housing. |

| Table 4.6-1 General Plan Policies Relevant to Greenhouse Gas Emissions | |
|--|--|
| No. | Goal |
| Policy 2.3.4 | Promote and facilitate reduction of waste in construction and building operations. |
| Policy 2.3.5 | Promote outreach and education regarding sustainable buildings. |
| TRANSPORTATION ELEMENT | |
| Objective 1 | Expand neighborhood transportation services and programs to enhance neighborhood accessibility. |
| Objective 2 | Mitigate the impacts of traffic growth, reduce congestion, and improve air quality by implementing a comprehensive program of multimodal strategies that encompass physical and operational improvements as well as demand management. |
| Objective 3 | Support development in regional centers, community centers, major economic activity areas, and along mixed-use boulevards as designated in the Community Plans. |
| Objective 5 | Provide for the efficient movement of goods and for adequate access to intermodal facilities. |
| Objective 10 | Make the street system accessible, safe, and convenient for bicycle, pedestrian, and school child travel. |
| SOURCES: Los Angeles Department of City Planning, <i>General Plan of the City of Los Angeles, Air Quality Element</i> (adopted November 24, 1992); Los Angeles Department of City Planning, <i>General Plan of the City of Los Angeles, Conservation Element</i> (adopted September 26, 2001); Los Angeles Department of City Planning, <i>General Plan of the City of Los Angeles, 2006–2014 Housing Element</i> (adopted January 14, 2009); Los Angeles Department of City Planning, <i>General Plan of the City of Los Angeles, Transportation Element</i> (adopted September 8, 1999). | |

Specific Plans

The Granada Hills–Knollwood Specific Plan was adopted originally in 1992, and amended in 2000 and 2006. The Granada Hills–Knollwood Specific Plan has no regulations or policies that specifically address climate change.

There is no specific plan for the Sylmar CPA.

■ Proposed Plan Policies

California has introduced legislation that requires greater local emphasis on greenhouse gas reductions and better integration of transportation and land use planning. The plans proposed the following policies that address these important objectives. A detailed description of the policies is included in the proposed Granada Hills–Knollwood and Sylmar Community Plans, respectively. A detailed description of the policies is included in the Granada Hills–Knollwood Community Plan (Appendix G1) and the Sylmar Community Plan (Appendix G2).

Table 4.6-2 (Proposed Granada Hills–Knollwood Community Plan Policies) and Table 4.6-3 (Proposed Sylmar Community Plan Policies) list proposed policies that address climate change impacts within the CPAs.

| Table 4.6-2 Proposed Granada Hills–Knollwood Community Plan Policies | |
|---|---|
| <i>Policy No.</i> | <i>Policy</i> |
| Policy LU1.3 | Recreational Amenities. Incorporate amenities for residents, such as on-site recreational facilities, passive open spaces, and community gardens, which promote a sense of community, physical activity, fitness, and health. |
| Policy LU3.3 | Trails System and Connections. Reinforce the viability of equine uses and accessibility to open space and recreation opportunities by requiring new developments, parcel maps, subdivision tracts, small lot subdivisions, and infrastructure improvement projects that abut or connect with a trail to develop and/or improve the Trails System. Refer to Chapter 4 for additional trail policies and design guidelines. |
| Policy LU5.1 | "Green" Building. Utilize "green" building strategies such as solar panels, insulating buildings to minimize consumption of non-renewable natural resources, and orienting windows, building volumes and second stories to maximize solar access. |
| Policy LU5.2 | Permeable Surfaces. Increase areas of permeability by minimizing driveway and curb cut widths, limiting driveway paving to the width required to access a garage, and utilizing permeable surfaces on driveways, walkways, trails, and outdoor spaces in order to capture, infiltrate, and store water underground. |
| Policy LU5.3 | Landscaping. Retain existing vegetation and trees and use native and drought-tolerant landscape and drip irrigation when developing the site in order to conserve water. |
| Policy LU5.4 | Canopy Trees. Provide canopy trees in planting areas for shade and energy efficiency, especially on south and southwest facing facades. |
| Policy LU7.2 | Streetscape Patterns. Consider existing road widths and streetscape patterns to avoid unnecessary non-contiguous improvements of sidewalks, curbs, and streets. |
| Policy LU7.3 | Fences and Gates. Restrict gated or walled communities that isolate the project from the neighborhood and surrounding community. |
| Policy LU8.1 | Preservation of Equine Keeping Areas. Discourage discretionary actions including zone changes, zone variances, conditional use permits, or divisions of land that do not preserve equine-keeping and agricultural uses in the northwest portion of Granada Hills, bounded by Rinaldi to the south, Balboa to the east, Los Angeles County border to the north, and Aliso Canyon to the west. |
| Policy LU9.1 | Adequate and Accessible Equinekeeping Lots. Design new subdivision tracts, parcel maps, and small lot subdivisions within an Equinekeeping "K" Supplemental Use District according to the Granada Hills–Knollwood Design Guidelines to ensure room for on-site equine facilities and site accessibility via an equine path for the driveway to the pad area. Achieve the intended purpose of the District by providing adequate and level pad areas, and arrange the location of homes, equine pads and enclosures, lot access and gates, trails and trail easements and access points, and grading according to the Design Guidelines. |
| Policy LU10.1 | Corridor Development. Improve existing and support the development of new multiple-family housing in existing multiple-family residential areas along Balboa Boulevard south of Rinaldi Street, Chatsworth Street and adjacent streets, Devonshire Street, and Woodley Avenue, near transit and amenities. |
| Policy LU11.3 | Compatibility with Single-Family Design. Design buildings so that the fronts of dwellings face the public right-of-way to give the appearance of single-family neighborhood character, and to enhance the pedestrian experience. |
| Policy LU12.1 | Commercial Preservation. Protect areas designated and zoned for commercial use so that commercial development and reinvestment is encouraged and the community maintains and increases its employment base. |
| Policy LU12.2 | Activity-Generating Uses. Encourage additional uses in existing commercial shopping centers, such as restaurants, entertainment, childcare facilities, public meeting rooms, recreation, and public open spaces, which enhance neighborhood activity. |
| Policy LU13.2 | Parking. Design parking lots and structures to be safe and comfortable for pedestrians and complementary to adjacent residential uses, by utilizing decorative wall and landscaped setbacks and shielding driveway and walkway lighting. |
| Policy LU13.3 | Signage. Integrate commercial signs into the design of buildings as a means of enhancing the streetscape appearance. |
| Policy LU14.3 | Safety. Use lighting and graffiti abatement to help reduce street crime, promote a sense of safety, and improve the appearance of commercial centers and parking areas. |

Table 4.6-2 Proposed Granada Hills–Knollwood Community Plan Policies

| <i>Policy No.</i> | <i>Policy</i> |
|-------------------|--|
| Policy LU15.2 | Landscape Design. Require new projects and encourage existing developments to install street trees and landscaping to create a more inviting commercial area that provides shade canopy, reduces ambient temperature, and softens the physical environment. |
| Policy LU15.3 | Pedestrian and Bicycle Amenities. Provide pedestrian and bicycle amenities such as trash receptacles, street furniture, bicycle racks, and enhanced crosswalks as part of new projects to enhance the street atmosphere and encourage walking and bicycling. |
| Policy LU16.1 | "Green" Design. Design new development to use green building strategies such as solar panels, insulating buildings to minimize consumption of non-renewable natural resources. |
| Policy LU16.2 | Permeable Surfaces. Increase areas of permeability in conjunction with the design of any new project by utilizing permeable surfaces on driveways, walkways, and outdoor spaces in order to capture, infiltrate, and store water on site. |
| Policy LU16.3 | Landscaping. Retain existing vegetation and trees and use native and drought-tolerant landscape and drip irrigation when developing the site in order to conserve water. |
| Policy LU16.4 | Canopy Trees. In addition to street trees, provide canopy trees in planting areas for shade and energy efficiency, especially on south and southwest facing facades and in parking areas and walkways. |
| Policy LU17.2 | New Businesses. Provide commercial uses that primarily serve the surrounding neighborhoods, such as sit-down restaurants, cafes, quality retail, and essential neighborhood-serving businesses, such as barber shops and other personal services. |
| Policy LU18.1 | Mixed-Use. Support low-scale multiple-family housing on streets adjacent to Chatsworth Street to foster pedestrian activity and encourage walkability in the downtown core area. |
| Policy LU18.2 | Pedestrian-Friendly Buildings. Design new commercial and mixed use buildings and additions so that they enhance the public realm through well designed frontages that provide pedestrian-scaled features such as awnings, plazas, and courtyards and direct access from public sidewalks. |
| Policy LU18.3 | Way-Finding Signage. Include pedestrian-oriented way-finding signage to encourage pedestrian activity. |
| Policy LU18.4 | Gathering Places. Encourage outdoor spaces, such as plazas and sidewalk dining and support closure of the Zelzah Avenue turn-off onto Chatsworth Street for use as a plaza and gathering space for farmer's markets and community events. |
| Policy LU19.2 | Streetscape Enhancement. Enhance the streetscape through the planting of additional street trees and creating bulb-outs and enhanced crosswalks. |
| Policy LU20.2 | Neighborhood-Serving Uses. Provide neighborhood-serving uses that will support each other such as retail, sit-down restaurants, and cafés. |
| Policy LU20.3 | Variety of Commercial Uses. Develop a variety of commercial uses that address different community needs and market sectors. |
| Policy LU20.4 | Community Amenities. Incorporate uses and space for community amenities into private developments and public facilities, such as plazas, open space, libraries, child care facilities, community meeting rooms, senior centers, police sub-stations, and other appropriate human services. |
| Policy LU20.6 | Pedestrian-Friendly Building Access. Design new buildings and additions that enhance the public realm through appropriate architectural frontages that provide direct access into commercial buildings from public sidewalks. |
| Policy LU20.8 | Pedestrian-Friendly Features. Include outdoor dining areas, and public amenities such a plazas and courtyards, where appropriate, and pedestrian-scale design features such as awnings. |
| Policy LU20.9 | Way-Finding Signage. Promote pedestrian-oriented way-finding signage to encourage pedestrian activity. |
| Policy LU22.1 | Green Design. New and existing industrial developments should use green design and technology for energy efficiency and water conservation, use recycling resources, establish native and drought-tolerant landscaping, and use permeable surfaces on walkways and outdoor spaces. |

| Table 4.6-2 Proposed Granada Hills–Knollwood Community Plan Policies | |
|---|--|
| <i>Policy No.</i> | <i>Policy</i> |
| Policy M1.1 | Complete Streets. Ensure the community is served by a complete street system with some streets strategically prioritized for target user(s) and other streets that connect the arterials to serve all users. |
| Policy M1.2 | Mobility for Challenged Users. Support, wherever feasible, transportation programs and services aimed at enhancing the mobility of senior citizens, disabled persons and the transit-dependent population. |
| Policy M1.3 | Mobility Enhancements. Design developments that increase density or intensity by zone change, variance, conditional use permit, parcel map, subdivision or other discretionary action to provide adequate mobility enhancements such as traffic mitigation, pedestrian crosswalks, trails, bicycle lanes and enhanced bus stops to ensure that mobility needs are met. |
| Policy M1.4 | Private Investment for Off-site Facilities/Amenities. Encourage new developments to include bicycle, equestrian and pedestrian amenities and off-site public transit and road improvements, creating a circulation system that optimizes travel by all modes. |
| Policy M2.1 | Streetscapes. Encourage and support streetscape improvements in neighborhood areas that foster the appeal of the street as a gathering place including street furniture, well-maintained street trees, publicly accessible courtyards and plazas, wide sidewalks with landscaping, bicycle access, and appropriate traffic control measures to reduce travel speeds. Consider a Streetscape Plan for the downtown core along Chatsworth Street. |
| Policy M3.1 | Safety for All Users. Minimize conflicts between the various modes of motorized and non-motorized transportation by designing and constructing roads, sidewalks, crosswalks, bicycle lanes and trails to their proper specifications with appropriate signage and well-marked crossings to ensure safety for all users of the roadway, including buses, cars, pedestrians, bicyclists, and equestrians. |
| Policy M3.2 | Safe School Routes. Encourage the development and improvement of safe routes to schools throughout the community via walking, bicycling or public transit. |
| Policy M3.3 | Easements and Rights-of-Way. Encourage the safe utilization of easements and/or rights-of-way along flood control channels, utilities, railroad rights-of-way and streets, wherever feasible, for pedestrians, bicyclists, and equestrians. |
| Policy M3.5 | Reclaimed Land. Incorporate trails and bicycle facilities into recreational reuse of reclaimed land such as of utility rights-of-way, flood control channels, and access roads. |
| Policy M4.1 | Pedestrian-Oriented Development. Encourage walking by orienting building entrances to face the streets and sidewalks when designing new developments and buildings. Refer to Chapter 3, Land Use and Urban Design, for additional policies. |
| Policy M4.2 | Pedestrian Priority Routes. Streets within commercial, mixed-use and employment districts should have pedestrian priority, establishing pedestrian needs as paramount to vehicular circulation needs. Investment in pedestrian improvements and programs for these segments should be encouraged. |
| Policy M4.3 | Pedestrian Amenities. Maintain sidewalks, streets and rights-of-way in good condition, free of obstructions, and with adequate lighting, trees and parkways. Streets must accommodate pedestrians comfortably through adequate sidewalks and parkway landscaping that provides a buffer from moving vehicles, shade from the sun, and street lighting that provides safety at night, unless specifically prescribed by the community for trails and equestrian amenities, or rural aesthetics. |
| Policy M5.1 | Bikeway Connections. Provide bicycle access for open space areas, commercial corridors, Neighborhood Districts and Community Centers to allow easy connection between residential neighborhoods and employment centers, as well as important non-work destinations. |
| Policy M5.2 | Bicycle Priority Streets. Support the Citywide bikeway network to establish bicycle circulation as paramount to vehicular circulation needs on key streets and to encourage investment in bicycle improvements and programs on these identified streets. |
| Policy M5.3 | Bicycle Amenities. Incorporate bicycle amenities, such as parking, lockers, changing rooms and showers in public facilities, parks, commercial developments, employment and transit centers and park and ride facilities. |

Table 4.6-2 Proposed Granada Hills–Knollwood Community Plan Policies

| <i>Policy No.</i> | <i>Policy</i> |
|-------------------|---|
| Policy M5.4 | Regional Coordination. Coordinate with appropriate City and County agencies, adjacent jurisdictions, non-profit organizations, and the local community to require that bikeways be linked with those existing and proposed in adjacent areas. |
| Policy M6.1 | Trails System. Protect and expand the Trail System in Granada Hills–Knollwood which reinforces the viability of equine uses and accessibility to open spaces and recreational opportunities by requiring new development, subdivision tracts, parcel maps, small lot subdivisions, and infrastructure improvement projects which abut or connect with a trail to develop and/or improve the Trail System. |
| Policy M6.2 | Trail Connections. For projects over which a trail is designated or existing (traverses the project site), as shown on the Trails System map, require new developments, parcel maps, tracts, and small-lot subdivisions to dedicate easements for public trail purposes and consider providing access to trails not provided by other dedicated public trails in the vicinity, connecting to existing dedicated public trails, and providing a trail linkage from the project to existing dedicated public trails. Trails may be located within developments and/or on the periphery of developments, and the courses of the trails may be altered to maximize land use as long as the altered course is safe and maintains connections and continuity to the Trails System and other trails. |
| Policy M6.3 | Recreational Trails. Maintain, develop, and/or improve recreational trails in open space areas, agricultural land, and utility and public rights-of-way which link residents to parks, open space, public facilities, and other trails and create healthier and more sustainable communities. Encourage, where appropriate, a network of trails to facilitate recreational uses such as mountain biking, horseback riding, and hiking. |
| Policy M6.4 | Trail Priority Streets. Support the Trail System to establish equestrian circulation as paramount to vehicular circulation needs on key streets in Granada Hills–Knollwood and to encourage investment in trail improvements and programs on these identified streets. |
| Policy M6.6 | Trail Safety. Where trails are identified along arterial roadways, incorporate appropriate safety measures such as signage, crosswalks, equestrian waiting areas, and rider-height signal actuator buttons at signalized intersections, to accommodate equestrian use and minimize conflicts between equestrians, pedestrians, bicyclists, and automobiles. Streets where equestrian safety measures are recommended include Sesnon Boulevard from Longacre Road to Cascade Canyon Drive, Zelzah Avenue from Rinaldi Street to Sesnon Boulevard, and Mayerling Street from Rexbon Road to Shoshone Avenue. |
| Policy M6.7 | Regional Coordination on Public Land. Coordinate with the necessary public agencies to acquire rights to improve the easements along the flood control channels and the high-tension transmission lines and areas of public open space, to be improved and developed as trails and linked with those of neighboring areas. |
| Policy M8.1 | Transit Connections to Key Areas. Increase public transit access to neighborhood districts and community centers. Coordinate with Metro and the Department of Transportation to improve local, Metro Rapid, and community-level bus service. |
| Policy M8.2 | Development at Transit Nodes. Facilitate development and public improvements at multimodal transit nodes, or intersections that Metro identifies as major transfer nodes to promote convenient access between new development and the transit system. |
| Policy M8.3 | Private Transit. Encourage new major developments to provide on-demand shuttle services to Metro stations, community centers, or destinations in and around Granada Hills–Knollwood. |
| Policy M9.1 | Transit Priority Streets. Support the identification of transit priority street segments with high transit vehicle volumes to facilitate public transit circulation as paramount to vehicular circulation needs and to encourage investment in transit improvement programs for the identified routes. |
| Policy M9.2 | Transit Access and Amenities. Provide enhanced amenities at major transit stops, including widened sidewalks, where possible, pedestrian waiting areas, transit shelters, enhanced lighting, improved crosswalks, information kiosks, and advanced fare collections mechanisms, shade trees, bicycle access and self-cleaning restrooms. Improve the ease and convenience of using transit by making improvements to transit waiting areas and pedestrian and bicycle routes leading to transit waiting areas. |
| Policy M9.3 | Street Enhancements for Buses. Support street improvements which are needed to facilitate the movement of buses, such as jog eliminations, street widening, bus bays or turnouts, street signage, striping, and colored pavement. |

| Table 4.6-2 Proposed Granada Hills–Knollwood Community Plan Policies | |
|---|--|
| <i>Policy No.</i> | <i>Policy</i> |
| Policy M9.4 | Express Bus Focus. Connect express bus service, such as DASH, Commuter Express, Metro Rapid and Bus Rapid Transit, to transit centers; and park and ride facilities to key destinations within the Community Plan and region. |
| Policy M10.1 | Priorities for Capacity Enhancements. Implement a safe and efficient transportation network, and increase its capacity through, in priority order, the provision of alternative transit options (Transit), transportation demand management (TDM), and traffic system management (TSM) before considering street widening and network completion. |
| Policy M10.3 | Access Management. Minimize driveways and consider the addition of medians or designated right-of-way for non-motorized traffic on Major and Secondary Highways to ensure the smooth and safe flow of vehicles, buses, pedestrians, equestrians and bicycles. |
| Policy M10.4 | Alley Access. Discourage the vacation and/or closure of existing public alleys in commercial districts and provide for alley access for properties fronting on Major or Secondary highways. |
| Policy M11.1 | Traffic Calming. Support traffic calming measures and parking management for local and collector streets where demonstrated need exists and with active community involvement, while maintaining pedestrian and bicycle circulation. |
| Policy M11.2 | Traffic Mitigations for Development. Require major developments to mitigate traffic impacts on residential neighborhoods. |
| Policy M12.1 | Regional Coordination. Coordinate with Council of Government and regional transportation planning agencies (such as SCAG and Metro) and adjacent cities to improve shuttle services, encourage ride sharing, bicycle sharing, and other TDM programs within the region. |
| Policy M12.2 | Auto Trip Reduction. Create incentives for employers, institutions, and residential neighborhoods to reduce their vehicle trips by encouraging mixed use developments that reduce the number of vehicle miles traveled. |
| Policy M12.3 | Alternatives to the Automobile. Reduce automobile dependency by providing a safe, convenient transit system, pedestrian linkages and a network of safe and accessible bikeways and recreational trails by encouraging alternatives, including reduced emission vehicles, such as electric and neighborhood electric vehicles (NEVs). |
| Policy M12.4 | TDM Plans. Encourage major development to submit a TDM Plan to the City and provide employee incentives for utilizing alternatives to the single-driver automobile (i.e., carpools, vanpools, buses, telecommuting, bicycling, and walking.) |
| Policy M12.5 | Transportation Management Associations. Support the formation of agencies and collaboratives such as Transportation Management Associations (TMAs) that facilitate ridesharing in carpools and vanpools. |
| Policy M13.3 | On-site Loading. Ensure that all commercial and industrial development has adequate off-street accommodations for loading and unloading of commercial vehicles. Minimize potential conflicts between truck loading and unloading and pedestrian, bicycle, and transit access and circulation. |
| Policy M14.1 | Parking Management Districts. Support the creation of a parking management district(s) in areas of high demand to facilitate parking within a group of shared facilities |
| Policy M14.5 | Convenient Parking. Provide public parking proximate to transit centers, commercial areas, and public facilities. |
| Policy M15.1 | Park Once Strategy. Collaborate with the business community to improve parking services, including shared-parking facilities and public valet services in appropriate locations to more effectively use the overall parking supply and implement a “park once and walk” strategy for commercial districts, especially on Chatsworth Street in the downtown core. |
| Policy M15.2 | Priority Parking for Alternative Fuel Vehicles. Encourage new commercial and retail developments to provide prioritized parking for shared vehicles, electric vehicles and vehicles using alternative fuels. |
| Policy M15.3 | Connections for Electric Vehicles. Encourage new construction to include vehicle access to properly wired outdoor receptacles to accommodate zero emission vehicles (ZEVs) and/or plug-in electric hybrids (PHEV). |
| Policy CF3.2 | Flexibility of Siting. Encourage new developments to incorporate library facilities in commercial and office buildings, pedestrian-oriented areas, community centers, transit stations, and similarly accessible facilities. |
| Policy CF4.3 | Siting of New Facilities. Locate new schools in areas with complementary land uses, access to transit, and recreational opportunities. Encourage the siting of schools in locations which can utilize topography and landscaping, as well as building design, to provide noise and air quality buffering, when necessary. |

Table 4.6-2 Proposed Granada Hills–Knollwood Community Plan Policies

| <i>Policy No.</i> | <i>Policy</i> |
|-------------------|--|
| Policy CF5.2 | Site Enhancements. Enhance and improve all parks and recreation areas by providing amenities where appropriate, such as pedestrian paths, bike and equestrian trails, and adequate parking. |
| Policy CF5.5 | Existing Public Land. Support the creation of new parks and park expansions within public rights-of-way, such as flood control channels, utility easements, debris basins, and other unused and underutilized public properties. Hiking, bicycle, and equestrian trails in Granada Hills– Knollwood should connect these facilities with parks and open spaces throughout the community. |
| Policy CF5.8 | Public Transit. Coordinate with the appropriate departments and agencies to create public transit that can connect neighborhoods to regional parks. |
| Policy CF5.9 | Park Safety. Promote the design, construction, maintenance, and management of public parks to ensure that parks are adequately monitored, maintained, and illuminated at night, especially for families with children and senior citizens who use the parks. |
| Policy CF6.8 | Private Development. Continue to expand and maintain trail linkages which reinforce the viability of equine uses and accessibility to open spaces by designing development and infrastructure improvement projects that abut or connect with a trail to develop and/or improve the Trails System. |
| Policy CF6.9 | Trails. Protect and expand recreational trail resources and maintain and improve safe linkages to major public open space areas. |
| Policy CF6.10 | Greenways. Establish, where feasible, multi-use greenways along waterways, rail lines, and utility corridors to provide additional open space for passive or active recreation and to connect adjoining neighborhoods to one another and to regional open space resources. |
| Policy CF6.11 | Public Open Spaces. Improve connectivity and access to the Valley Trails corridor and other adjacent open space resources using such tools as easements and greenway linkages. |
| Policy CF8.1 | Urban Forest. Encourage the preservation of the existing tree population and include new trees in an effort to achieve optimum canopy cover to reduce and mitigate the heat island effect. Include on-site trees in new development projects, whenever possible. |
| Policy CF8.2 | Tree Protection. Encourage and promote the retention of trees, particularly orange trees, where practical and appropriate, through education, outreach and incentives offered by the Bureau of Street Services. |
| Policy CF8.4 | Native Plants. Encourage the use of plant communities native to Angeles which achieve native biodiversity and enhance existing wildlife habitats. |
| Policy CF8.5 | Shade Streets. Facilitate the planting and maintenance of street trees, which provide shade and give scale to residential and commercial streets in all neighborhoods in Granada Hills–Knollwood. |
| Policy CF8.6 | Sustainable Design. Develop design standards that promote the sustainable development in public and private open space and street rights-of-way. |
| Policy CF9.1 | Local Water Resources Optimization. Meet increases in the demand for water through conservation, the use of recycled water for irrigation, non-potable, and non-residential uses, and by recharging the local groundwater aquifers where permitted, to reduce dependence on imported water. |
| Policy CF9.3 | Water Conservation. Continue to require the installation of water conservation measures/devices that limit water usage for all new municipal and private projects, and major alterations to existing municipal and private facilities, as recommended by LADWP. |
| Policy CF10.1 | Wastewater Minimization. Require that wastewater flows be minimized in existing and future developments through stricter water conservation measures, recycling efforts and other features that reduce on-site wastewater output. |
| Policy CF10.2 | Recycled Water. Promote the use of recycled water for and irrigation purposes in new industrial and commercial developments. |
| Policy CF11.1 | Waste Reduction. Promote advanced waste reduction and methods for all solid waste treatment, including the establishment of methane recovery facilities and the implementation of waste-to- energy projects where characteristics meet criteria for effective energy generation. |

| Table 4.6-2 Proposed Granada Hills–Knollwood Community Plan Policies | |
|---|---|
| <i>Policy No.</i> | <i>Policy</i> |
| Policy CF11.2 | On-site Recycling. Promote the inclusion of on-site facilities for recycling and waste reduction in single-family, multiple-family, commercial and industrial development projects that support the transformation of waste disposal into resource recovery and economic development opportunities. |
| Policy CF11.3 | Recycled Materials. Encourage recycling of construction material, both during construction and building operation, and the dismantling and reuse of materials rather than demolition and dumping. |
| Policy CF12.2 | Local Water Resources. Optimize local water resources to reduce water dependence on imported water by improving groundwater infiltration, facilitating on-site collection systems for stormwater and graywater, maximizing the capture and reuse of stormwater runoff, and integrating groundwater infiltration with other public and/or beneficial uses. |
| Policy CF13.5 | Energy Conservation. Integrate energy conservation techniques into new and existing development projects. |
| Policy CF15.1 | Energy Management. Ensure efficient and effective energy management while providing appropriate levels of lighting to meet safety needs. |
| Policy CF15.2 | Lighting Integration. Ensure that street lighting designs meet minimum standards for quality lighting to provide appropriate pedestrian visibility for usage of streets and sidewalks in commercial centers and neighborhood districts, and enhance the pedestrian oriented character of these districts. |

| Table 4.6-3 Proposed Sylmar Community Plan Policies | |
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| <i>Policy No.</i> | <i>Policy</i> |
| Policy LU1.3 | Recreational Amenities. Incorporate amenities for residents, such as on-site recreational facilities, passive open spaces, and community gardens which promote physical activity, fitness, and health. |
| Policy LU3.3 | Trail System and Connections. Reinforce the viability of equine uses and accessibility to open space and recreation opportunities by requiring new developments, subdivision tracts, parcel maps, small lot subdivisions, and infrastructure improvement projects that abut or connect with a trail to develop and/or improve the Trails System. |
| Policy LU5.1 | Division of Land and Grading. Design new subdivision tracts, parcel maps, and small lot subdivisions within an Equine-keeping "K" Supplemental Use District according to the Sylmar Design Guidelines to ensure room for on-site horse facilities and site accessibility via an equine path from the driveway to the pad area. Achieve the intended purpose of the District by providing adequate and level equine pad areas, and arrange the location of homes, equine pads and stables, lot access and gates, trails and trail easements and access points, and grading, according to the Design Guidelines. |
| Policy LU7.1 | "Green" Building. Utilize "green" building strategies such as solar panels, insulating buildings to minimize consumption of non-renewable natural resources, and orienting windows, building volumes and second stories to maximize solar access. |
| Policy LU7.2 | Permeable Surfaces. Increase areas of permeability by minimizing driveway and curb cut widths, limiting driveway paving to the width required to access a garage, and utilizing permeable surfaces on driveways, walkways, trails, and outdoor spaces in order to capture, infiltrate, and store water underground. (P26) |
| Policy LU7.3 | Landscaping. Retain existing vegetation and trees and use native and drought-tolerant landscape and drip irrigation when developing the site in order to conserve water. (P27) |
| Policy LU7.4 | Canopy Trees. Provide canopy trees in planting areas for shade and energy efficiency, especially on south and southwest facing facades. |
| Policy LU9.6 | Streetscape. Continue to provide open and inviting landscaped yard setbacks and parkways by restricting gated or walled communities that isolate the project from the neighborhood and surrounding community. |
| Policy LU9.8 | Road Width. Consider existing road widths and streetscape patterns to avoid unnecessary non-contiguous improvements of sidewalks, curbs, and streets. |
| Policy LU10.2 | Pedestrian Pathways. Provide accessible, comfortable, and safe pedestrian connections within and around the project. For units not adjacent to a street, provide landscaped pedestrian pathways that are separate from auto circulation routes. |

Table 4.6-3 Proposed Sylmar Community Plan Policies

| <i>Policy No.</i> | <i>Policy</i> |
|-------------------|---|
| Policy LU10.3 | Entrances. Promote pedestrian activity by placing entrances at grade level or slightly above, and unobstructed from view from the public right-of-way. Entryways below street level should be avoided. |
| Policy LU12.4 | Equestrian-Related Services. Encourage uses which serve the equestrian community, such as equine feed stores and veterinary clinics, to locate within Sylmar. |
| Policy LU13.6 | Trail System and Connections. Design new development and infrastructure improvement projects that abut or connect with an identified trail to develop and/or improve the Trail System. Provide amenities that support the equestrian lifestyle, including rider height crossing signals at signalized intersections and signs. |
| Policy LU14.2 | Building Orientation. Improve neighborhood character and the pedestrian environment of commercial areas by siting buildings so they interact with the sidewalk and the street, contribute to a sense of human scale, and support ease of accessibility to buildings. |
| Policy LU14.3 | Pedestrian Access and Connections. Provide safe and direct pedestrian entrances from the sidewalk and the street and encourage connections to abutting commercial development. Utilize techniques to increase motorist awareness of pedestrians, such as lighting, raised crosswalks, changes in paving, signage or other devices. |
| Policy LU14.4 | Building Façade. Create and reinforce neighborhood identity and a richer pedestrian environment by incorporating features on the building façade that add visual interest to the environment, architectural elements that add scale and character, and building elements that enhance comfort and security of pedestrians. |
| Policy LU14.5 | On-site Landscaping. Provide landscaped areas with shade trees on-site that complement the character of the built environment, add beauty and visual interest, increase pedestrian comfort, and extend the sense of the public-right-of-way onto the site. |
| Policy LU14.6 | Streetscape. Design developments to create inviting districts with landscaped sidewalks lined with shade trees, street furniture, and other pedestrian amenities (or streetscape features), open with visual and physical permeability, and pedestrian-oriented connections, where local residents will be attracted and encouraged to walk to nearby commercial establishments. |
| Policy LU14.7 | Public Amenities. Integrate public amenities such as community meeting rooms, civic auditoriums, childcare, plazas, play areas, and public art and open spaces in new development to create destinations for residents to shop and gather and to foster creativity and the arts. |
| Policy LU14.9 | Off-Street Parking and Driveways. Ensure that clear and convenient access for pedestrians is not minimized by vehicular needs, eliminate auto-pedestrian conflicts, and maintain the character of a pedestrian-friendly street. Locate parking behind or within structures or otherwise fully or partially screened from public view. Where possible, replace surface parking areas with well-designed structured parking and infill parking areas with multi-story mixed-use buildings. Minimize the number of driveways and limit the width of each driveway to the minimum required. |
| Policy LU14.10 | Lighting and Graffiti. Use lighting and graffiti abatement to help reduce street crime and violence and promote a sense of safety and the attractive appearance of commercial centers and parking areas. Install on-site lighting along all pedestrian and vehicular access ways. |
| Policy LU14.13 | Signage. Encourage the removal of existing pole, pylon, and roof-top signs and replace them with more appropriate pedestrian-friendly signage such as monument signs, when renovating and developing commercial sites. Restrict new pole/pylon signs, billboards, and digital or electronic signage in all commercial areas, except designated Commercial Centers. |
| Policy LU15.1 | Corridor Development. Design new infill development to be compatible with the traditional small-scale, pedestrian-oriented, commercial corridor development pattern that exists along both sides of Foothill Boulevard, by locating building frontages at the front property line and placing on-site parking to the side or rear of buildings so that parking does not dominate the streetscape. |
| Policy LU15.7 | Pedestrian Amenities. Enhance the pedestrian-friendly environment of Foothill Boulevard by increasing street and property lighting, improving way-finding signage, providing bus stop shelters and other pedestrian amenities. Consider providing sidewalk "pop-outs" at Hubbard Street, Sayre Street, and Astoria Street as part of new developments to further enhance the pedestrian environment. |

Table 4.6-3 Proposed Sylmar Community Plan Policies

| <i>Policy No.</i> | <i>Policy</i> |
|-------------------|--|
| Policy LU16.1 | Eco-Friendly Design. Design new buildings to express the climate of Sylmar through their orientation, massing, and construction. Consider utilizing passive solar design strategies, such as overhangs and shade trees, orienting building volumes, windows, and second-stories to maximize solar access, constructing well-insulated wall systems, and providing useable covered outdoor areas to generate more comfortable and energy-efficient buildings. |
| Policy LU16.2 | Landscaping. Include sustainable landscape strategies such as using deciduous trees to shade buildings in the summer and allow filtered light to penetrate during the winter, planting native and drought-tolerant shrubs, hedges, and vines to reduce water usage, utilizing permeable surfaces on walkways and outdoor spaces and vegetated swales to cleanse and infiltrate water directly onto the ground, and installing drip irrigation systems to conserve water. |
| Policy LU17.1 | Neighborhood-Oriented Uses and Services. Encourage the retention of existing and the development of new neighborhood services and retail that serve the surrounding residents. |
| Policy LU17.5 | Public Amenities. Incorporate outdoor spaces, such as plazas and courtyards that accommodate outdoor dining and other activities. Support sidewalk dining to enhance the pedestrian. |
| Policy LU18.2 | Activity-Generating Uses. Encourage the owners of existing commercial shopping centers to include additional uses, such as restaurants, entertainment, childcare facilities, public meeting rooms, recreation, and public open spaces, which enhance neighborhood activity. |
| Policy LU18.3 | Housing. Permit residential uses above the ground-floor or behind the street frontage. Encourage the development of affordable housing within Community Centers. |
| Policy LU18.5 | Circulation. Create and improve pedestrian and bicycle connections by providing dedicated sidewalks connecting businesses within the development, surrounding the development, and connecting the development to nearby neighborhoods. Provide access through barriers separating the development from adjacent neighborhoods. |
| Policy LU19.1 | Transit-Oriented Development. Encourage projects to include a mix of transit-supportive uses, such as shops, restaurants, offices, housing, and hotels within a half mile of the Sylmar/San Fernando Metrolink Station that would serve local residents, employees, businesses, and transit commuters. |
| Policy LU19.2 | Ground Floor Retail and Commercial. Include ground-floor retail/commercial uses fronting San Fernando Road within a quarter mile of the Station. Require ground-floor retail/commercial uses on all corner lots on San Fernando Road between Hubbard and Polk Streets. |
| Policy LU19.3 | Mixed-Use Development. Promote mixed-use projects in proximity to the Sylmar/San Fernando Metrolink Station, along transit corridors, and in identified mixed-use boulevards. |
| Policy LU19.4 | Incentives. Utilize higher Floor Area Ratio (FAR) to incentivize mixed-use development and residential growth near the Sylmar/San Fernando Metrolink Station. |
| Policy LU19.6 | Housing. Include a variety of new housing types, such as townhomes, apartments, and condominiums that cater to a diversity of households near public transit as a means of enhancing retail, transit viability, and reducing vehicle trips. |
| Policy LU19.8 | Community Amenities. Encourage new development projects, particularly projects which utilize floor area incentives, to incorporate community facilities such as libraries, child care facilities, community meeting rooms, public art and plazas, senior centers, police sub-stations, and/or other appropriate human service facilities. |
| Policy LU19.9 | Parking Lots and Structures. Support opportunities for developing commercial uses on the Sylmar/San Fernando Metrolink Station Park and Ride lot. Ensure that adequate parking space for transit patrons is provided. |
| Policy LU19.10 | Shared Parking. Design large projects with multi-use facilities to share parking and amenities between uses and with other adjacent developments. Consider sharing parking with the Sylmar/San Fernando Metrolink Station Park and Ride lot. |
| Policy LU19.12 | Local Transit Services. Promote paratransit and other local shuttle systems, and bicycle amenities that provide access for residents of adjacent neighborhoods. |
| Policy LU20.3 | Pedestrian-Oriented Architecture. Incorporate architectural features that encourage walking, such as storefront windows, awnings, and arcades and include architectural features that divide large buildings into smaller, human-scaled components. |

Table 4.6-3 Proposed Sylmar Community Plan Policies

| <i>Policy No.</i> | <i>Policy</i> |
|-------------------|--|
| Policy LU20.5 | Streetscape. Support efforts to continue to improve the appearance and safety along San Fernando Road and Maclay Street through distinctive streetscapes and unified landscape treatments that prioritize pedestrians. The revitalized streets should include large deciduous shade trees punctuated by palm trees and unique street lights to help distinguish these areas. Support the development of Streetscape Plans along San Fernando Road and Maclay Street. |
| Policy LU20.6 | Connectivity. Improve the area's connectivity by implementing techniques to make the pedestrian environment more pleasant on longer blocks or find ways to break down the scale of these superblocks with new pedestrian connections, such as incorporating streetscape and hardscaped improvements and private easements for public use. |
| Policy LU20.7 | Metrolink Connections. Improvements for this area should foster a connection between the Metrolink Station, railroad tracks, and the major arterial intersection of San Fernando Road. Pedestrian connections across San Fernando Road and a multi-modal transit plaza to promote transit access to and from the existing rail station is highly supported and encouraged. |
| Policy LU21.4 | Job Safety. Ensure that industrial land uses are safe for human health and the environment and that they provide a robust source of employment. |
| Policy LU22.5 | Street Beautification. Encourage streetscape improvements such as street trees, sidewalks, landscaping, lighting, and undergrounding of utilities. Projects within the two industrial parks, Telfair Avenue and Balboa Boulevard, should maintain the existing landscaped pattern. |
| Policy LU23.1 | Environmentally Friendly Businesses. Support green business growth and encourage the replacement of polluting land use activities with environmentally friendly businesses. |
| Policy LU23.2 | Sustainable Industry. Incentivize development opportunities for businesses that employ green or clean technologies, building practices, and processes. |
| Policy LU23.3 | Eco-Friendly Design. Design new buildings to express the climate of Sylmar through their orientation, massing, and construction. Consider utilizing passive solar design strategies, such as overhangs and shade trees, orienting building volumes, windows, and second-stories to maximize solar access, constructing well-insulated wall systems, and providing useable covered outdoor areas to generate more comfortable and energy-efficient buildings. |
| Policy LU23.4 | Landscaping. Include sustainable landscape strategies such as using deciduous trees to shade buildings in the summer and allow filtered light to penetrate during the winter, planting native and drought-tolerant shrubs, hedges, and vines to reduce water usage, utilizing permeable surfaces on walkways and outdoor spaces and vegetated swales to cleanse and infiltrate water directly onto the ground, and installing drip irrigation systems to conserve water. |
| Policy LU24.5 | Restoration and Re-Use. Promote the restoration and reuse of existing buildings as a key component of the City's sustainability policies. |
| Policy M1.1 | Complete streets. Ensure the community is served by a complete street system with some streets strategically prioritized for target user(s) and other streets that connect the arterials to serve all users. |
| Policy M1.2 | Mobility for Challenged Users. Support, wherever feasible, transportation programs and services aimed at enhancing the mobility of senior citizens, disabled persons and the transit-dependent population. |
| Policy M1.3 | Mobility Enhancements. Design developments that increase density or intensity by zone change, variance, conditional use permit, parcel map, subdivision or other discretionary action to provide adequate mobility enhancements such as traffic mitigation, pedestrian crosswalks, trails, bicycle lanes and enhanced bus stops to ensure that mobility needs are met. |
| Policy M1.4 | Private Investment for Off-site Facilities/Amenities. Encourage new developments to include bicycle, pedestrian, and equestrian amenities and include off-site public transit and road improvements creating a circulation system that optimizes travel by all modes. |
| Policy M1.5 | Modified Street Standards. Where there is evidence of physical or other constraints, or uses such as a transit station, the City should consider modified street standards to implement modal priorities to enhance neighborhood character and to facilitate a complete street network. |

| Table 4.6-3 Proposed Sylmar Community Plan Policies | |
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| <i>Policy No.</i> | <i>Policy</i> |
| Policy M2.1 | Streetscapes. Encourage and support streetscape improvements in neighborhood areas that foster the appeal of the street as a gathering place including street furniture, well-maintained street trees and landscaping, publicly accessible courtyards, wide sidewalks, bicycle access and appropriate traffic control measures to reduce travel speeds. |
| Policy M3.1 | Safety for All Users. Minimize conflicts between the various modes of motorized and non-motorized transportation by designing and constructing roads, sidewalks, crosswalks, bicycle lanes and trails to their proper specifications with appropriate signage and well marked crossings to ensure safety for all users of the roadway, including buses, cars, pedestrians, bicyclists, and equestrians. |
| Policy M3.2 | Safe School Routes. Encourage the development and improvement of safe routes to schools throughout the community, particularly along Polk Street, Borden Avenue, and Astoria Street, via walking, bicycling, or by public transit. |
| Policy M3.3 | Easements and Right-of-Ways. Encourage the safe utilization of easements and/or rights-of-way along flood control channels, utilities, railroad rights-of-way and streets wherever feasible for pedestrians, bicyclist, and equestrians. |
| Policy M4.1 | Pedestrian-Oriented Development. Encourage walking by orienting building entrances to face the streets and sidewalks when designing new developments and buildings. Promote well-designed retail with transparent facades to allow visibility of commercial uses and encourage large commercial projects to consider designs which break up the floor plate, providing pedestrian connections, and human scale design features, such as plazas, green spaces or a public focal point. Discourage "superblocks". |
| Policy M4.2 | Pedestrian Priority Streets. Streets within commercial, mixed-use and employment districts should have pedestrian priority establishing pedestrian needs as paramount to vehicular circulation needs. Investment in pedestrian improvements and programs for these segments should be encouraged. |
| Policy M4.3 | Pedestrian Amenities. Maintain sidewalks, streets and right-of-ways in good condition, free of obstructions, and with adequate lighting, trees and parkways. Streets must accommodate pedestrians comfortably through adequate sidewalks and parkway landscaping that provides a buffer from moving vehicles, shade from the sun, and street lighting that provides for safety at night, unless specifically prescribed by the community for trails, equestrian amenities, or rural aesthetics. |
| Policy M5.1 | Bikeway Connections. Provide bicycle access for open space areas, mixed-use corridors, commercial corridors, neighborhood districts and community centers to allow easy connection between residential neighborhoods and employment centers, as well as important non-work destinations. |
| Policy M5.2 | Bicycle Priority Streets. Support the Citywide bikeway network to establish bicycle circulation as paramount to vehicular circulation needs on key streets and to encourage investment in bicycle improvements and programs on these identified streets. |
| Policy M5.3 | Public Improvements. Implement public right-of-way improvements on Eldridge Avenue, Roxford Street, and Olive View Drive and restripe sections of these streets to provide two-lanes of travel and allow for bicycle lanes on both sides of the street. |
| Policy M5.4 | Parking Restrictions. Consider implementing parking restrictions along Bicycle Priority Streets, such as Glenoaks Boulevard, to accommodate bicycle improvements, where appropriate. |
| Policy M5.5 | Bicycle Amenities. Incorporate bicycle amenities, such as parking, lockers, changing rooms and showers, in public facilities, parks, commercial developments, employment and transit centers, and park and ride facilities. |
| Policy M5.6 | Regional Coordination. Coordinate with appropriate City and County agencies, adjacent jurisdictions, non-profit organizations and the local community to require bikeways be linked with those existing and proposed in adjacent areas. |
| Policy M6.1 | Trail System. Protect and expand the Trail System in Sylmar which reinforces the viability of equine uses and accessibility to open spaces and recreational opportunities by requiring new development, subdivision tracts, parcel maps, small lot subdivisions, and infrastructure improvement projects which abut or connect with a trail to develop and/or improve the Trail System. |
| Policy M6.2 | Trail Priority Streets. Support the Trail System to establish equestrian circulation as paramount to vehicular circulation needs on key streets in Sylmar and to encourage investment in trail improvements and programs on these identified streets. |

Table 4.6-3 Proposed Sylmar Community Plan Policies

| <i>Policy No.</i> | <i>Policy</i> |
|-------------------|---|
| Policy M6.4 | Trail Connections. For projects over which a trail is designated or existing (crosses through the project site), as shown on the Trail System map, and consider providing access to trails not provided by other dedicated public trails in the vicinity, connecting to existing dedicated public trails, and providing a trail linkage from the project to existing dedicated public trails. Trails may be located within developments and/or on the periphery of developments and the course of the trail may be altered to maximize land use as long as the altered course is safe and maintains connections and continuity to the Trail System and other trails. If the course of the trail changes, subsequent projects on neighboring lots should continue the same course. |
| Policy M6.5 | Recreational Trails. Maintain, improve, and/or develop recreational trails in open space areas, agricultural land, and utility and right-of-ways which link residents to parks, open space, public facilities, and other trails and create healthier and more sustainable communities. Encourage where appropriate a network of trails to facilitate recreational use such as horseback riding and hiking. |
| Policy M6.6 | Trail Amenities. Incorporate trail amenities that support the equestrian lifestyle, such as hitching, parking, and staging areas, that are adjacent to or near the Trail System. Where appropriate, provide recreational trails, a turnout, vista points and other complementary facilities. |
| Policy M6.7 | Trail Safety. Where trails are identified along arterial roadways, incorporate appropriate safety measures, such as signage, crosswalks, equestrian waiting areas, and rider-height signal actuator buttons at signalized intersections, to accommodate equestrian use and minimize conflicts between equestrians, pedestrians, bicyclists and automobiles. Streets where equestrian safety measures are recommended include Olive View Drive and Bledsoe Street, Gladstone Avenue and Polk Street, and Glenoaks Boulevard and Cobalt Street. |
| Policy M6.8 | Regional Coordination on Public Land. Coordinate with the necessary public agencies to acquire rights to improve the easements along the flood control channels and the high-tension transmission lines and areas of public open space, to be improved and developed as trails and linked with those of neighboring areas. |
| Policy M8.1 | Transit Connections to Key Areas. Increase public transit access to neighborhood districts, community centers and mixed use boulevards. Coordinate with Metro and the Department of Transportation to improve local, Metro Rapid, and community-level bus service. |
| Policy M8.2 | Development at Transit Nodes. Facilitate development and public improvements at the Sylmar/San Fernando Metrolink station and intersections that Metro identifies as major transfer nodes to promote convenient access between new development and the public transit system. |
| Policy M8.3 | Private Transit. Encourage new major developments to provide on-demand shuttle services to the Sylmar/San Fernando Metrolink Station, local Metro bus stops, community centers, mixed use boulevards, and other destinations within the community. |
| Policy M9.1 | Transit Priority Streets. Support the identification of transit priority street segments with high transit vehicle volumes to facilitate public transit circulation as paramount to vehicular circulation needs and to encourage investment in transit improvement programs for the identified routes. |
| Policy M9.3 | Transit Access and Amenities. Provide enhanced amenities at major transit stops, including widened sidewalks, where possible, pedestrian waiting areas, transit shelters, enhanced lighting, improved crosswalks, information kiosks, and advanced fare collection mechanisms, shade trees, bicycle access and self-cleaning restrooms. Improve the ease and convenience of using transit by making improvements to transit waiting areas and pedestrian and bicycle routes leading to transit waiting areas. |
| Policy M9.4 | Street Enhancements for Buses. Support street improvements, particularly along Hubbard Street, which are needed to facilitate the movement of buses, such as jog eliminations, street widening, bus bays or turnouts, street signage, striping, and colored pavement. |
| Policy M9.5 | Express Bus Focus. Connect express bus service, such as DASH, Commuter Express, Metro Rapid and Bus Rapid Transit, to transit centers and park and ride facilities to key destinations within Sylmar, including the Bradley industrial area, shopping centers, Mission College, and local parks. |
| Policy M9.6 | High-Speed Rail. Conduct studies to determine the appropriate uses and amenities necessary to increase ridership, while balancing the needs of the community, if a high-speed rail station or line is planned for Sylmar. |

| Table 4.6-3 Proposed Sylmar Community Plan Policies | |
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| <i>Policy No.</i> | <i>Policy</i> |
| Policy M10.1 | Priorities for Capacity Enhancements. Implement a safe and efficient transportation network, and increase its capacity through, in priority order, the provision of alternative transit options (Transit), transportation demand management (TDM), and traffic system management (TSM) before considering street widening and network completion. |
| Policy M10.4 | Access Management. Minimize driveways and consider the addition of medians or designated right-of-way for non-motorized traffic on Major and Secondary Highways to ensure the smooth and safe flow of vehicles, buses, pedestrians, equestrians, and bicycles. |
| Policy M11.1 | Traffic Calming. Support traffic calming measures and parking management for local and collector streets where demonstrated need exists and with active community involvement, while maintaining pedestrian and bicycle circulation. |
| Policy M11.3 | Special Event Coordination. Encourage coordination of parking ride shuttle services to activity centers and special events such as street fairs and parades. |
| Policy M12.1 | Regional Coordination. Coordinate with Council of Government and regional transportation planning agencies (such as SCAG and METRO) and adjacent cities to improve shuttle services, encourage ride sharing, bicycle sharing, and other TDM programs within the region. |
| Policy M12.2 | Auto Trips. Create incentives for employers, institutions, and residential neighborhoods to reduce their vehicle trips by encouraging mixed use developments that reduce the number of vehicle miles traveled. |
| Policy M12.3 | Alternatives to the Automobile. Reduce automobile dependency by providing a safe, convenient transit system, pedestrian linkages and a network of safe and accessible bikeways and recreational trails by encouraging alternatives, including reduced emission vehicles, such as electric and neighborhood electric vehicles (NEVs). |
| Policy M12.4 | TDM Plans. Encourage major development to submit a TDM Plan to the City and provide employee incentives for utilizing alternatives to the single-driver automobile (i.e. carpools, van pools, buses, telecommuting, bicycling, and walking, etc.). |
| Policy M12.5 | Transportation Management Associations. Support the formation of agencies and collaboratives such as Transportation Management Associations (TMAs) that facilitate ridesharing in carpools and vanpools. |
| Policy M13.1 | Industrial Center Siting. Site regional distribution centers and other industrial districts proximate to the freeway system, regional truck routes, and rail lines, avoiding adjacency to residential neighborhoods. |
| Policy M13.2 | Goods Movement. Encourage the efficient movement of goods by rail through development of efficient intermodal freight facilities and a shift of a portion of the goods previously moved by trucks onto the rail freight system. Limit truck traffic in residential and commercial areas to designated truck routes. |
| Policy M13.5 | On-site Loading. Ensure that all commercial and industrial development have adequate off-street accommodations for loading and unloading of commercial vehicles. Minimize potential conflicts between truck loading and unloading and pedestrian, bicycle, and transit access and circulation. |
| Policy M14.1 | Parking Management Districts. Support the creation of a parking management district(s) in areas of high demand to facilitate parking within a group of shared facilities. |
| Policy M14.4 | Convenient Parking. Provide public parking proximate to transit centers, mixed-use boulevards, and public facilities, particularly within the Sylmar/San Fernando Road Metrolink station. |
| Policy M15.1 | Reduced Parking near Transit Centers. Consider reductions in parking requirements for projects located within 1,500 feet of the Sylmar/San Fernando Metrolink station. |
| Policy M15.2 | Park Once Strategy. Collaborate with the Sylmar Business Improvement Districts to improve parking services along San Fernando Road, Foothill Boulevard, and Glenoaks Boulevard, including shared-parking facilities in appropriate locations to more effectively use the overall parking supply and implement a "park once and walk" strategy for commercial districts. |
| Policy M15.3 | Priority Parking for Alternative Fuel Vehicles. Encourage new commercial and retail developments to provide prioritized parking for shared vehicles, electric vehicles and vehicles using alternative fuels. |
| Policy M15.4 | Connections for Electric Vehicles. Encourage new construction to include vehicle access to properly wired outdoor receptacles to accommodate zero emission vehicles (ZEVs) and/or plug-in electric hybrids (PHEV). |

Table 4.6-3 Proposed Sylmar Community Plan Policies

| <i>Policy No.</i> | <i>Policy</i> |
|-------------------|---|
| Policy CF4.1 | Existing Facilities. Place a high priority on the repair and of any inadequate structural components that threaten the integrity and/or function of instructional buildings. Expansion of existing schools is preferred over the acquisition of new sites, when feasible. |
| Policy CF5.2 | Site Enhancements. Enhance and improve all parks and areas by providing amenities where appropriate, such as pedestrian paths, and bike and equestrian trails. |
| Policy CF5.5. | Public Rights-of-Way. Support the creation of new parks expansions within public rights-of-way, such as flood control channels, utility easements, debris basins, and other unused and underutilized public properties. Hiking, bicycle, and equestrian trails in Sylmar should connect these facilities with the Angeles National Forest, Hansen Dam Recreation Area, El Cariso Regional Park, and the Pacoima Wash. |
| Policy CF5.6 | New Development. Encourage and allow opportunities for new development to provide pocket parks, small plazas, community gardens, commercial spaces, and other gathering places that are available to help meet recreational demands. |
| Policy CF5.7 | Location. Encourage neighborhood parks and recreational centers near concentrations of residential areas and include safe pedestrian walkways and bicycle paths that encourage non-motorized use. |
| Policy CF5.10 | Public Transit. Coordinate with the appropriate departments and agencies to create public transit that can connect neighborhoods to regional parks. |
| Policy CF5.11 | Park Safety. Promote the design, construction, maintenance, and management of public parks to ensure that parks are adequately monitored, maintained, and illuminated at night, especially for families with children and senior citizens who use the parks. |
| Policy CF6.8 | Trail Linkages. Continue to expand and maintain trail reinforce the viability of equine uses and accessibility to open spaces by designing development and infrastructure improvement projects that abut or connect with a trail to develop and/or improve the Trail System. Refer to Chapter 4 for additional trail-related policies and design guidelines. |
| Policy CF6.9 | Greenways. Establish, where feasible, multi-use greenways along waterways, rail lines, and utility corridors to provide additional open space for passive or active recreation and to connect adjoining neighborhoods to one another and to regional open space resources. |
| Policy CF6.10 | Access and Connections. Improve connectivity and access to the Rim of the Valley Trails corridor and other adjacent open space resources using such tools as easements and trail and greenway linkages. |
| Policy CF7.3 | Connectivity and Access to connectivity and access to the Pacoima Wash, San Gabriel Mountains, Angeles National Forest, Rim of the Valley Trails corridor, and other open spaces and adjacent neighborhoods. |
| Policy CF7.4 | Multi-purpose Greenways. Utilize tools such as easements and greenway linkages, including walking, hiking, trails, and bicycles paths that are maintained accessible to the public, which provide a safe non-motorized transportation path for all users and expand park and open space opportunities. |
| Policy CD7.6 | Crossings. Enhanced trail crossings are recommended along Street, across Maclay Street between Los Angeles Mission College, and Gavina Street to ensure safety and connectivity of the various trails. |
| Policy CF7.8 | Rights-of-Way. Improve available rights-of-way with landscaping, benches, walkways, trails, and bikeways for low-intensity recreational uses. |
| Policy CF8.1 | Urban Forest. Encourage the preservation of the existing tree population and include new trees in an effort to achieve optimum canopy cover to reduce and mitigate the heat island effect. Include on- site trees in new development projects, whenever possible. |
| Policy CF8.2 | Tree Protection. Encourage and promote the retention of trees, particularly olive and orange trees, where practical and appropriate, through education, outreach and incentives offered by the Bureau of Street Services. |
| Policy CF8.3 | Tree Selection. Support policies of the Bureau of Street Services to reduce conflicts with existing infrastructure through proper tree selection and through the recognition of street trees as a vital component of the City's infrastructure. |
| Policy CF8.4 | Native Plants. Encourage the use of plant communities native to Los Angeles which achieve native biodiversity and enhance existing wildlife habitats. |

| Table 4.6-3 Proposed Sylmar Community Plan Policies | |
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| <i>Policy No.</i> | <i>Policy</i> |
| Policy CF8.5 | Shade Streets. Facilitate the planting and maintenance of street trees, which provide shade and give scale to residential and commercial streets in all neighborhoods in Sylmar. |
| Policy CF8.6 | Sustainable Design. Develop design standards that promote the sustainable development in public and private open space and street rights-of-way. |
| Policy CF9.1 | Local Water Resources Optimization. Meet increases in the demand for water through conservation, the use of recycled water for irrigation, non-potable, and non-residential uses, and by recharging the local groundwater aquifers where permitted, to reduce dependence on imported water. |
| Policy CF9.2 | Water Conservation. Require water conservation measures/devices that limit water usage for all new municipal and private projects, and major alterations to existing municipal and private facilities. |
| Policy CF10.1 | Wastewater Minimization. Require that wastewater flows be minimized in existing and future developments through stricter water conservation measures, recycling efforts and other features that reduce on-site wastewater output. |
| Policy CF10.2 | On-Site Wastewater Output. Promote advanced waste reduction and diversion methods for all wastewater treatment, including the establishment of methane recovery facilities and the implementation of waste-to-energy projects where characteristics meet criteria for effective energy generation. |
| Policy CF10.3 | Recycled Water. Promote the use of recycled water for and irrigation purposes in new industrial and commercial developments. |
| Policy CF11.1 | Waste Reduction. Promote advanced waste reduction and methods for all solid waste treatment, including the establishment of methane recovery facilities and the implementation of waste-to- energy projects where characteristics meet criteria for effective energy generation. |
| Policy CF11.2 | On-site Recycling. Promote the inclusion of on-site facilities for recycling and waste reduction in single-family, multiple-family, commercial and industrial development projects that support the transformation of waste disposal into resource recovery and economic development opportunities. |
| Policy CF11.3 | Recycled Materials. Encourage recycling of construction material, both during construction and building operation, and the dismantling and reuse of materials rather than demolition and dumping. |
| Policy CF12.4 | Flood Control Channels. Support a watershed-wide network of pedestrian, equestrian, and bicycle routes along the flood control channels. |
| Policy CF13.5 | Green Technology. Support efforts to promote the use of clean, renewable energy that is diverse in technology and location to decrease dependence on fossil fuels, reduce emissions of green house gases, and increase the reliability of the City's power supply. |
| Policy CF15.1 | Energy Management. Ensure efficient and effective energy management while providing appropriate levels of lighting to meet safety needs. |
| Policy CF15.2 | Lighting Integration. Ensure that street lighting designs meet minimum standards for quality lighting to provide appropriate pedestrian visibility for usage of streets and sidewalks in commercial centers and neighborhood districts, and enhance the pedestrian oriented character of these districts. |
| Policy CF15.3 | Assessment Districts. Coordinate efforts between the community and the BSL to establish new Street Lighting Assessment Districts in the older areas of the community in need of new or updated street lighting infrastructure. |

Consistency Analysis

The proposed plans contain goals, policies, and programs which the City would promote during the life span of the proposed Granada Hills–Knollwood and Sylmar Community Plans. Goals of the proposed plans are intended to promote and enhance infill, mixed-use, and transit-oriented development within the CPAs. The increase in density will aid in the reduction of climate change impacts from utility usage and vehicle miles traveled. The proposed plans would be consistent with the policies set forth the City’s

General Plan document. Therefore, the proposed plans would be consistent with applicable guidelines and regulations.

4.6.3 Project Impacts and Mitigation

■ Analytic Method

The impact analysis for the proposed Granada Hills–Knollwood and Sylmar Community Plans is based on a GHG emissions analysis, which is presented in the Environmental Analysis, below. GHG emissions associated with the development and operation of the proposed plans were estimated using the CalEEMod software, trip generation data from the project traffic analysis,⁶⁵ emissions factors from the California Climate Action Registry, and other sources. The methodology and assumptions used in this analysis are detailed below for construction and operation activities. Refer to Appendix C1 and Appendix C2 for model output and detailed calculations.

Because the impact each GHG has on climate change varies, a common metric of CO₂e (carbon dioxide equivalents) is used to report a combined impact from all of the GHGs. The effect each GHG has on climate change is measured as a combination of the volume of its emissions, and its global warming potential, and is expressed as a function of how much warming would be caused by the same mass of CO₂. Thus, GHG emissions in this analysis are measured in terms of metric tons of CO₂ equivalents (MT CO₂e).

Construction

Construction activities can alter the carbon cycle in many different ways. Construction equipment typically utilizes fossil fuels, which generates GHGs such as carbon dioxide, methane, and nitrous oxide. Methane may also be emitted during the fueling of heavy equipment. The raw materials used to construct new buildings can sequester carbon; however, demolition of structures can result in the gradual release of the carbon stored in waste building materials into the atmosphere as those materials decompose in landfills. Since the exact nature of the origin or make-up of the construction materials is unknown, construction-related emissions are typically based on the operation of vehicles and equipment during construction.

Construction is a temporary source of emissions necessary to facilitate development in the CPAs. Although these emissions are temporary, they must be accounted for, as the impact from the emissions of GHGs is cumulative. Based on current SCAQMD methodology, all of the GHGs emitted during construction are amortized over an estimated 30-year project lifetime. The amortized emissions are then combined with the operational emissions to provide a cumulative estimate of annual GHG emissions for the proposed plans. However, because the exact nature and timing of development with the CPAs is unknown, emissions from construction activities cannot be quantified. Therefore, for the purposes of this analysis, construction emissions are analyzed on a qualitative level.

⁶⁵ Iteris, *Proposed Granada Hills–Knollwood Community Plan Transportation Improvement Mitigation Program (TIMP)* (June 6, 2012); Iteris, *Proposed Sylmar Community Plan Transportation Improvement Mitigation Program (TIMP)* (April 12, 2012).

Operation

Operational emissions will be generated by the development of land uses as proposed within the CPAs. The proposed plans specifically address environmental impacts related to the proposed growth within the City. Therefore, this analysis focuses on emissions anticipated from that growth and does not address emissions from current City operations. The following sources of GHG emissions are generated from the operation of the residential, commercial, and industrial land uses proposed under the CPAs:

- **Vehicular trips**—Vehicle trips generated by growth within the CPAs would result in GHG emissions through combustion of fossil fuels. GHG emissions from vehicle miles traveled for each of the CPAs was determined through use of the CalEEMod model, using average trips determined from the project-specific traffic study and trip lengths specified in the Los Angeles Citywide General Plan Framework Environmental Impact Report.
- **On-site use of natural gas and other fuels**—Natural gas would be used by the CPA area development for heating of residential, commercial, and industrial space, as well as some industrial operations, resulting in a direct release of GHGs. The use of landscaping equipment would also result in on-site GHG emissions. Estimated emissions from the combustion of natural gas and other fuels from the implementation of the proposed plans is based on the number of dwelling units and square footage of non-residential building use and as estimated by the CalEEMod model. GHG emissions associated with building envelope energy use vary based on the size of structures, the type and extent of energy-efficiency measures incorporated into structural designs, and the type and size of equipment installed. Complete building envelope details could not be incorporated into the project inventory, as such information was not available at the time of the analysis. Therefore, it was assumed that the building envelopes would comply with the current minimal standards for all business-as-usual (BAU) analysis and for new development in the Granada Hills–Knollwood and Sylmar CPAs.
- **Electricity use**—Electricity is generated by a combination of methods, which include combustion of fossil fuels. By using electricity, new development in the CPAs would contribute to the indirect emissions associated with electricity production. Electrical generation emissions associated with the operation of the individual CPAs is estimated using the CalEEMod model.
- **Water use and wastewater generation**—California’s water conveyance system is energy-intensive, with electricity used to pump and treat water. Typically, development in the CPAs would contribute to indirect emissions by consuming water and generating wastewater. Water and wastewater associated emissions associated with the operation of the individual CPAs is estimated using the CalEEMod model.
- **Solid waste**—Disposal of organic waste in landfills can lead to the generation of methane, a potent greenhouse gas. By generating solid wastes, proposed development would contribute to the emission of fugitive methane from landfills, as well as CO₂, CH₄ and N₂O from the operation of trash collection vehicles. Emissions associated with solid waste generation for the individual CPAs is estimated using the CalEEMod model.

■ Thresholds of Significance

Neither the SCAQMD nor the CEQA Guidelines provides numeric or qualitative thresholds of significance for greenhouse gas emissions. The CEQA Guideline Amendments, adopted in December 2010, state that each local lead agency must develop its own significance criteria based on local

conditions, data, and guidance from public agencies and other sources. Implementation of the proposed plans may have a significant adverse impact on climate change if it would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment
- Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases

For the purposes of this analysis and based on full consideration of the available information, compliance with AB 32 is used in evaluating the proposed plan's incremental contribution to global warming impacts. AB 32, the California Global Warming Solutions Act of 2006, requires that greenhouse gases emitted in California be reduced to 1990 levels by the year 2020. The 2020 reduction target equates to a decrease of approximately 29 percent below the current BAU emissions based on the 2008 Scoping Plan. BAU is defined as the anticipated emissions from a project not accounting for anticipated laws or project features that will reduce construction or operational emissions from the project. The 2011 Scoping Plan threshold is not used due to the fact that the available modeling programs currently do not adequately quantify a BAU emissions estimation under this plan.

■ Effects Not Found to Be Significant

There were no effects identified that would not have any impact with respect to climate change.

■ Less-Than-Significant Impacts

There are no less-than-significant impacts of implementation of the proposed plans with respect to climate change.

■ Significant and Unavoidable Impacts

Impact 4.6-1 **Implementation of the proposed plans would result in development that could contribute substantial emissions of greenhouse gases. Implementation of feasible mitigation measure MM4.6-1 would reduce this impact, but not to *less-than-significant*. Therefore, this impact is *significant and unavoidable*.**

Implementation of the proposed Granada Hills–Knollwood and Sylmar Community Plans would generate greenhouse gases through the construction and operation of new residential, commercial, and industrial uses. Greenhouse gas emissions from development under the proposed plans would specifically arise from project construction and from sources associated with project operation, including direct sources such as motor vehicles, natural gas consumption, solid waste handling/treatment, and indirect sources such as electricity generation. Emissions from these operational sources are estimated and presented below in Table 4.6-4 (Estimated Unmitigated Annual CO₂e Emissions [MT CO₂e] [Granada Hills–Knollwood]) and Table 4.6-4 (Estimated Unmitigated Annual CO₂e Emissions [MT CO₂e] [Sylmar]). Following the SCAQMD recommendations, construction emissions would be amortized over an anticipated 30-year structure lifetime and added to the operational emissions to provide a complete average annual emissions estimate. However, because the extent of equipment use

and duration of individual construction projects are unknown, emissions of greenhouse gases for construction activities cannot be determined.

Table 4.6-4 Estimated Unmitigated Annual CO₂e Emissions (MT CO₂e) (Granada Hills–Knollwood)

| <i>Emission Source</i> | <i>2005</i> | <i>Proposed Plan (2030)</i> | <i>Proposed Plan Growth</i> |
|------------------------|----------------|-----------------------------|-----------------------------|
| Area | 14,518 | 17,290 | 2,772 |
| Energy | 134,553 | 188,841 | 54,288 |
| Mobile | 278,155 | 345,215 | 67,061 |
| Waste | 11,143 | 14,514 | 3,371 |
| Water | 22,561 | 34,957 | 12,396 |
| Total | 460,930 | 600,817 | 139,887 |

SOURCE: Atkins (2012) (using CalEEMod)

Table 4.6-5 Estimated Unmitigated Annual CO₂e Emissions (MT CO₂e) (Sylmar)

| <i>Emission Source</i> | <i>2005</i> | <i>Proposed Plan (2030)</i> | <i>Proposed Plan Growth</i> |
|------------------------|----------------|-----------------------------|-----------------------------|
| Area | 11,635 | 17,565 | 5,931 |
| Energy | 171,693 | 234,095 | 62,403 |
| Mobile | 270,019 | 360,826 | 90,807 |
| Waste | 46,466 | 55,532 | 9,066 |
| Water | 259,809 | 299,711 | 39,901 |
| Total | 759,621 | 967,729 | 208,107 |

SOURCE: Atkins (2012) (using CalEEMod)

Estimated future emissions from area sources, electricity consumption, and landfills do not account for reductions that would occur under policies described above. This is due to the fact that (1) such reductions are highly uncertain as most policies will only “encourage” or “promote” various measures, and (2) the reductions that could be achieved by these measures are difficult to quantify without specific data. Furthermore, a large amount of the increase in emissions is a direct result of increased VMT. Estimated future reduced emissions under the proposed plans do include reductions that would result from the proposed plans transportation improvement and mitigation programs (TIMPs).

Emissions of greenhouse gases are presented in terms of metric tons of CO₂ equivalents (MT CO₂e). CO₂e is the combination of all greenhouse gas impacts when normalized by comparing the effects of the impacts of each individual gas to that of a reference gas (CO₂). This metric allows for the representation of greenhouse gas impacts as a single number. Table 4.6-4 shows the estimated unmitigated GHG emissions with respect to maximum build-out under the proposed Granada Hills–Knollwood Community Plan, while Table 4.6-5 shows estimated unmitigated GHG emissions for the proposed Sylmar Community Plan. Detailed emission calculations are included in Appendix C1 and Appendix C2. The tables identify the estimated emissions respectively for Granada Hills–Knollwood and Sylmar as a whole and the growth associated with both the current plans as well as the proposed plans. Because the

proposed plans address policies for growth within the city the analysis herein is limited the emissions associated with that growth.

The proposed plans would provide for infill development in already established suburban areas. This, along with the implementation of state mandated regulations would result in the reduction of GHG emissions. Any future discretionary project pursuant to the proposed plans would require project level environmental clearance and would also be subject to regulations. These, coupled with mitigation measures identified in Section 4.2 (Air Quality) and the mitigation outlined below, would help reduce potential impacts from operational emissions, but not to a less-than-significant level. Therefore this impact would be considered *significance and unavoidable*.

Detailed reduction assumptions and calculations are included in Appendix C1 and Appendix C2.

To reduce emissions from energy usage, ClimateLA proposes the following goals: increase the amount of renewable energy provided by the Los Angeles Department of Water and Power (LADWP); present a comprehensive set of green building policies to guide and support private sector development; reduce energy consumed by City facilities and utilize solar heating where applicable; and help citizen to use less energy. Proposed Granada Hill-Knollwood Community Plan Policies LU5.1, LU16.1, LU 22.1, CF8.6, CF13.5, and CF15.1 and proposed Sylmar Community Plan Policies LU7.1, LU16.1, LU23.1, LU23.2, LU23.3, CF8.6, CF13.5, CF 15.1, and CF15.2 promote green building and the use of renewable energy. These policies would help the City achieve these goals by promoting the use of clean, renewable energy that is diverse in technology and location to decrease dependence on fossil fuels, reduce emissions of GHGs and increase the reliability of the power supply.

With regard to water, ClimateLA sets the following goals: meet all additional demand for water resulting from growth through water conservation and recycling; reduce per capita potable water consumption by 20 percent; and implement the City's water and wastewater integrated resources plan that will increase conservation, and maximize the capture and reuse of storm water. Proposed Granada Hills-Knollwood Policies CF9.1, CF9.3, CF10.1, and CF10.2 and proposed Sylmar Community Plans Policies CF9.1, CF9.2, CF10.1, and CF10.2 encourage water conservation and the use of recycled water, require water-conservation measures/devices that limit water usage for all new municipal and private projects and major alterations to existing municipal and private facilities, promote the use of recycled water in new industrial developments, and require that wastewater flows be minimized in existing and future developments through stricter water conservation measures, recycling efforts, and other features that reduce on-site wastewater output. These policies would be consistent with ClimateLA goals by promoting policies which conserve water, recharge local groundwater aquifers and reduce the pollution of water resources to help meet increases in demand for water.

With regard to transportation, ClimateLA primarily focuses on reducing emissions from City-owned vehicles. However, it does also include measures to help reduce GHG emissions from private vehicle use. Numerous proposed Community Plans' policies promote locating facilities near transit, providing for pedestrian and bicycle connections, providing connections to regional transit, increasing transit use, providing incentives for alternative-fuel vehicles, and providing a multi-modal facility for alternative forms of transportation to the automobile. All of these policies would reduce auto dependence and promote transit-oriented development policies to reduce vehicle trips, thereby reducing GHG emissions.

Community Plan Policies for Granada Hills–Knollwood that support these measures include policies such as Policies LU10.1, M1.3, M1.4, M4.1, M5.1, M5.2, M5.4, M8.1, M8.2, M12.1, M12.3, M15.2, and M15.3. Sylmar Community Plan Policies that support these measures include policies such as Policies LU10.2, LU14.3, LU19.1, LU20.6, LU20.7, M4.1, M4.2, M5.1, M5.6, M6.4, M6.8, M8.1, M12.1, M12.3, M12.4, M12.5, M15.3, and M15.4. Land use policies such as promoting high density near transportation, promoting transit-oriented development, and making underutilized land available for housing and mixed-use development especially when near transit are included in the ClimateLA plan. As discussed above, proposed policies would promote transit-oriented development to reduce vehicle trips. Furthermore, the proposed plan uses a strategy for targeted growth which encourages mixed-use development along commercial and industrial corridors which are well served by public transportation.

With regard to waste, ClimateLA sets the goal of reducing or recycling 70 percent of trash by 2015. Proposed policies promote “build green” strategies to reduce waste and offset carbon emissions. The proposed plans would further help promote this ClimateLA goal through proposed policies that promote advanced waste-reduction and diversion methods for all wastewater and solid waste treatment; on-site facilities for recycling and waste reduction in development projects, and recycling of construction material, both during construction and building operation, and encourages reuse of materials rather than demolition and dumping. Community Plan Policies for Granada Hills–Knollwood that support these measures include policies such as Policies LU22.1, CF11.1, CF11.2, and CF11.3. Sylmar Community Plan Policies that support these measures include policies such as Policies LU23.3, CF11.1, and CF11.3.

With regard to open space and greening, ClimateLA includes the following goals: create 35 new parks; revitalize the Los Angeles River to create open space opportunities; plant one million trees throughout the City; identify opportunities to “daylight” streams; identify promising locations for stormwater infiltration to recharge groundwater aquifers; and collaborate with schools to create more parks in neighborhoods. The Granada Hills–Knollwood and Sylmar proposed plans would help promote such measures through proposed policies regarding the importance of street and on-site trees, encouraging community and private partnerships in urban forestry issues, and providing open space and parks throughout both CPAs. Policies that support open space opportunities include Policies LU5.4, LU16.4, CF6.10, CF8.1, CF8.2, and CF8.5 for Granada Hills–Knollwood and Policies LU7.4, LU22.5, CF6.9, CF7.4, CF8.1, CF8.2, CF8.3, and CF8.5 for Sylmar.

Project-level mitigation measures would enhance the reductions identified respectively in the proposed Granada Hills–Knollwood and Sylmar Community Plans by strengthening them or identifying specific reduction goals. In addition, mitigation measure MM4.6-1 is incorporated into the proposed plans to ensure the further reduce greenhouse gas emissions by development in the CPAs.

Table 4.6-6 (Granada Hills–Knollwood Estimated Reduced Annual CO₂e Emissions) and Table 4.6-7 (Sylmar Estimated Reduced Annual CO₂e Emissions) show the annual emissions with the incorporation of the above measures. GHG emissions from the construction and operation of development pursuant to the proposed plans would be reduced by 32.48 and 31.10 percent from business-as-usual levels, and would meet the AB 32 reduction threshold with the implementation of MM4.6-1. Implementation of the proposed plans could still have a substantial adverse effect. However, any future discretionary development project pursuant to the proposed plans would require project level environmental clearance and would also be subject to regulations. These, coupled with mitigation measures identified in

Section 4.2 (Air Quality) and the mitigation outlined below, would help reduce potential impacts from operational emissions, but not to a less-than-significant level. Therefore this impact would be considered **significance and unavoidable**. For both the current and proposed plans, the tables identify emissions anticipated from growth without reduction, emissions anticipated once plan policies and mitigation are implemented, and the percent reductions associated with each source area as well as the overall reduction for each CPA.

| Emission Sources | Existing (2005) | Plan Total | Proposed Plan (2030) | | | |
|------------------|-----------------|----------------|----------------------|----------------|----------------|---------------|
| | | | Unreduced Growth | Reduced | Reduced Growth | % Reduction |
| Area | 14,518 | 17,290 | 2,772 | 17,003 | 2,484 | 10.38% |
| Energy | 134,553 | 188,841 | 54,288 | 169,710 | 35,156 | 35.24% |
| Mobile | 278,155 | 345,215 | 67,061 | 323,680 | 45,525 | 32.11% |
| Waste | 11,143 | 14,514 | 3,371 | 12,154 | 1,011 | 70.00% |
| Water | 22,561 | 34,957 | 12,396 | 32,836 | 10,276 | 17.11% |
| Total | 460,930 | 600,817 | 139,887 | 555,383 | 94,453 | 32.48% |

SOURCE: Atkins (2012).

| Emission Sources | Existing (2005) | Plan Total | Proposed Plan (2030) | | | |
|------------------|-----------------|----------------|----------------------|----------------|----------------|---------------|
| | | | Unreduced Growth | Reduced | Reduced Growth | % Reduction |
| Area | 11,635 | 17,565 | 5,931 | 16,950 | 5,315 | 10.38% |
| Energy | 171,693 | 234,095 | 62,403 | 212,916 | 41,224 | 33.94% |
| Mobile | 270,019 | 360,826 | 90,807 | 331,838 | 61,820 | 31.92% |
| Waste | 46,466 | 55,532 | 9,066 | 49,186 | 2,720 | 70.00% |
| Water | 259,809 | 299,711 | 39,901 | 292,124 | 32,314 | 19.01% |
| Total | 759,621 | 967,729 | 208,107 | 903,014 | 143,393 | 31.10% |

SOURCE: Atkins (2012).

Impact 4.6-2 Project emissions of greenhouse gases would have the potential to conflict with the implementation of AB 32. Implementation of feasible mitigation measure MM4.6-1 would reduce this impact, but not to less than significant. Therefore, this impact is significant and unavoidable.

As indicated in Impact 4.6-1, the proposed plans would result in a reduction of 32.48 and 31.10 percent from business-as-usual levels, respectively. In light of the characteristics and design features as well as the identified mitigation measure, implementation of the proposed plans would comply with the goals and policies established by AB 32. However, because the greenhouse gas emissions must include emissions generated during construction, the total impact on climate change from implementation of the proposed plans cannot be determined. This is considered a potentially significant impact. These reductions, combined with the operational reductions and implementation of MM4.6-1 would reduce impacts from

construction activities, but not to a less-than-significant level. Therefore this impact is *significant and unavoidable*.

Further, SB 375 requires that metropolitan planning organizations (MPOs) include sustainable communities strategies for the purpose of reducing greenhouse gas emissions; aligning planning for transportation and housing; and creating specified incentives for the implementation of the strategies. As described in the respective Transportation Improvement Mitigation Programs, both the Granada Hills–Knollwood Community Plan and the Sylmar Community Plan are local plans that are required to be consistent with the citywide transportation policies. The Granada Hills–Knollwood Community Plan and Sylmar Community plan TIMPs include policies and programs that will further the goals of both the AB 32 and SB 375 legislative initiatives. Therefore, regulatory reductions, combined with the operational mitigation, the reductions detailed in Impact 4.6-1, and the policies included in the TIMPs, would reduce impact, but not to a *less-than-significant* level. Therefore, this impact is *significant and unavoidable*.

■ Mitigation Measures

The proposed plans include policies and programs that would reduce any potential greenhouse gas emission impacts. In addition, the following mitigation measure would be implemented for all discretionary development in the Granada Hills–Knollwood and Sylmar CPAs:

MM4.6-1 The City, as a condition of approval for all applicable discretionary projects, shall require developers to implement applicable GHG-reduction measures in project design and comply with regulatory targets.

■ Level of Significance After Mitigation

With implementation of the mitigation measures and conditions of approval, outlined above, all impacts relative to greenhouse gas emissions would be reduced to *less-than-significant*.

4.6.4 References

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